

TITANINE DOPE

FIRST AERO WEEKLY IN THE WORLD

FLIGHT

The
**AIRCRAFT
ENGINEER**

A JOURNAL OF
PRACTICE, A
LOCOMO

Aircraft. Engines. Access. & Prep. &
Tyres. Missc. **IPS**

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

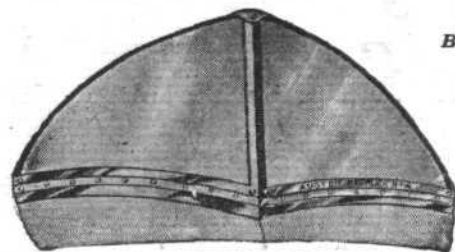
No. 1058. (No. 14. Vol. XXI.)

Registered at the General Post
Office as a Newspaper.

APRIL 4, 1929.

SIXPENCE WEEKLY.

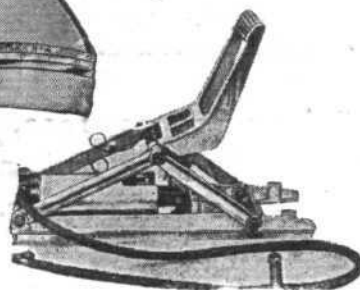
Auster



AUSTER TRIPLEX AERO SHIELD.

MODEL No. 4.

As fitted to D.H.50. Machines.
PROTECTED SIR ALAN COBHAM
on his
EPOCH MAKING FLIGHTS.



AUSTER FOOT PUMP.

Maximum Output. Minimum Effort.

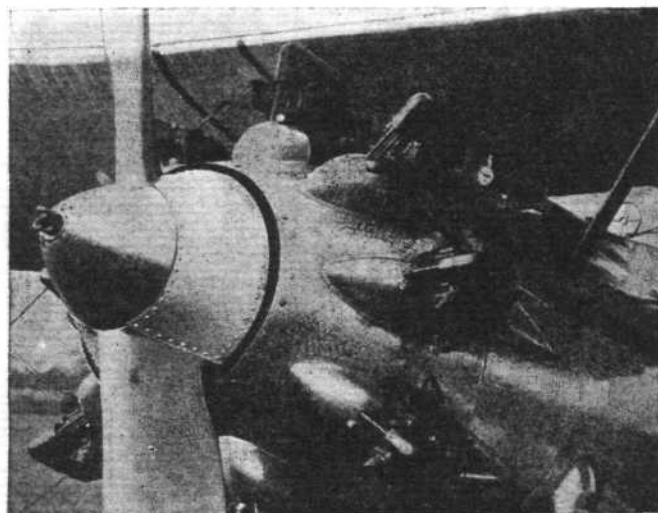
In 3 Models.

Large Cars, No. 1, 42/6 Light Cars, No. 3, 35/-
Garage, No. 2, 60/-.

AUSTER LTD.,
126-128, New King's Rd., Fulham, S.W.6.
Putney. 5301 (5 lines).

BIRMINGHAM: Crown Works,
Barford St. Phone: Midland 2123.
MANCHESTER: 306, Deansgate.

Contractors to
British and Foreign
Governments.



Aluminium Cowling on a Bristol Single Seater Fighter.

Aluminium

THE BRITISH ALUMINIUM CO., LTD.,
Aluminium Producers, Adelaide House, London, E.C.4.

MALLITE PLYWOOD

Telephone:
BISHOPSGATE
5641
(4 lines).

USED BY THE LEADING AIRCRAFT MANUFACTURERS

THROUGHOUT THE WORLD.

Telegrams:
VICPLY
KINLAND
LONDON,

Manufactured to the **BRITISH AIR MINISTRY SPECIFICATION, 2.V.3.,** by

THE AERONAUTICAL & PANEL PLYWOOD CO., LTD., 218-226, KINGSLAND ROAD, LONDON, E.2.

CELLON LTD.

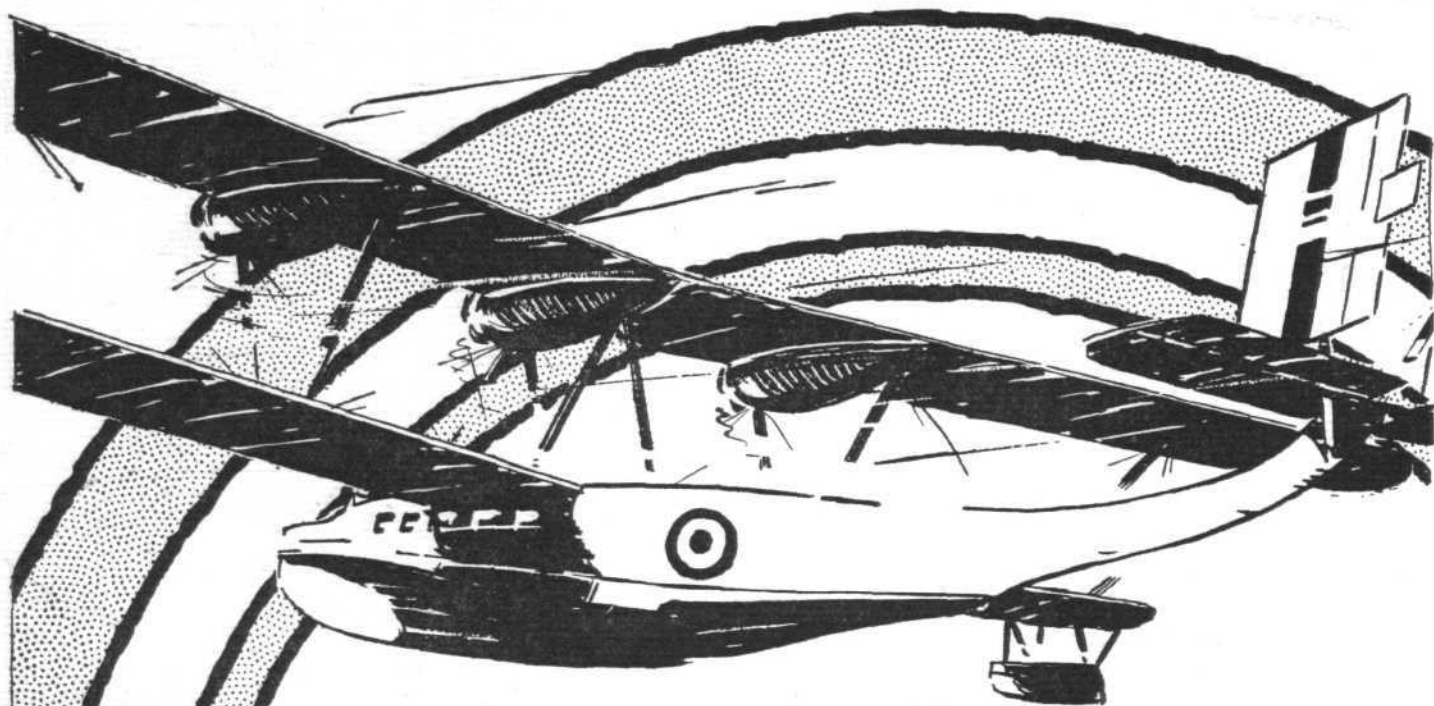
CONTRACTORS TO
H.M. GOVERNMENT

Cellon Works, Upper Ham Road,
Kingston-on-Thames.

Telegrams: "AJAWB, Phone, Kingston-on-Thames."
Telephone: Kingston 6061 (5 lines).

CELLON

DOPE



Saunders for marine aircraft

AS long ago as 1912, Saunders, the pioneers, were building flying boats of distinctive performance. To-day with a workshop organisation unique in the industry, Saunders sets the lead, more than ever equipped to supply the call for British workmanship from the air routes of the world.

Saunders for everything aeronautical and marine;
manufacturers and patentees of British plywoods.
CONTRACTORS TO AIR MINISTRY, ADMIRALTY, & WAR OFFICE

S. E. SAUNDERS LTD.
Designers & Constructors of all Aircraft
EAST COWES, I.W.
BUSH HOUSE, LONDON W.C.

A.P.A.

Kindly mention "Flight" when corresponding with advertisers.

STRIP STEEL

*Specialists in the Rolling
and Heat Treatment of
Aircraft Strip and Sheet
Steel.*

TO AIRBOARD SPECIFICATIONS.

*Deep Drawing Steel
for all kinds of Presswork.*

**J. J. HABERSHON & SONS, Ltd.,
HOLMES MILLS, ROTHERHAM.**

'Phone : ROTHERHAM 569 (4 lines). T. A. : "HABERSHON SONS,
ROTHERHAM."

FOR SAFETY'S SAKE

You cannot afford to use any but the finest quality rubber components. During the War, Luke Turner and Co., and Industrial Rubber Products Ltd., were pioneer manufacturers of aircraft rubber. Their very wide experience is at your disposal to-day.

Petrol Resisting
Tube.
Shock Absorber
Cord.
Shock Absorber
Rings.

Rubber Buffers.
Moulded Rubber.
Water Hose.
Pitot Tubing
Steam Hose,
Etc., etc.

Quotations gladly submitted
for every description of
AIRCRAFT RUBBER.

Our release notes authorised by A.I.D.
CONTRACTORS TO THE AIR MINISTRY.

INDUSTRIAL RUBBER MANUFACTURERS LTD
191-2 Tottenham Court Road,
London, W.C.

G.J.S.

The BRITISH motor spirit

National Benzole Mixture
is a motor spirit compos-
ed of British Benzole and
British refined petrol,
scientifically blended in
correct proportions to en-
sure highest performance.

NATIONAL BENZOLE MIXTURE

TRADE MARK



NATIONAL BENZOLE CO. LTD., WELLINGTON HOUSE, BUCKINGHAM GATE,
LONDON, S.W.1



TRADE MARK

**COPPER, BRASS,
PHOSPHOR BRONZE,
TUBES, SHEETS, RODS and WIRE.**
To AIR BOARD SPECIFICATIONS.

Specialities for Aircraft Work:—
**DRAWN PHOSPHOR BRONZE
TUBES AND RODS.**

By Authority of The Air Ministry, Inspection
Certificates are furnished with all our
manufactures ordered to Air Board Specifi-
cations.

**CHARLES CLIFFORD & SON, Ltd.,
BIRMINGHAM.**

ESTABLISHED 1776.

"FLIGHT" PHOTOGRAPHS (Copyright).

BLACK AND WHITE, GLOSSY,
UNMOUNTED:—

$6\frac{1}{2} \times 4\frac{1}{2}$... 1/6 $8\frac{1}{2} \times 6\frac{1}{2}$... 2/6 10×8 ... 3/6
12 x 10 ... 4/6 20 x 16 ... 10/6

DOUBLE THICKNESS, CREAM BASE, SEPIA
TONED, UNMOUNTED:—

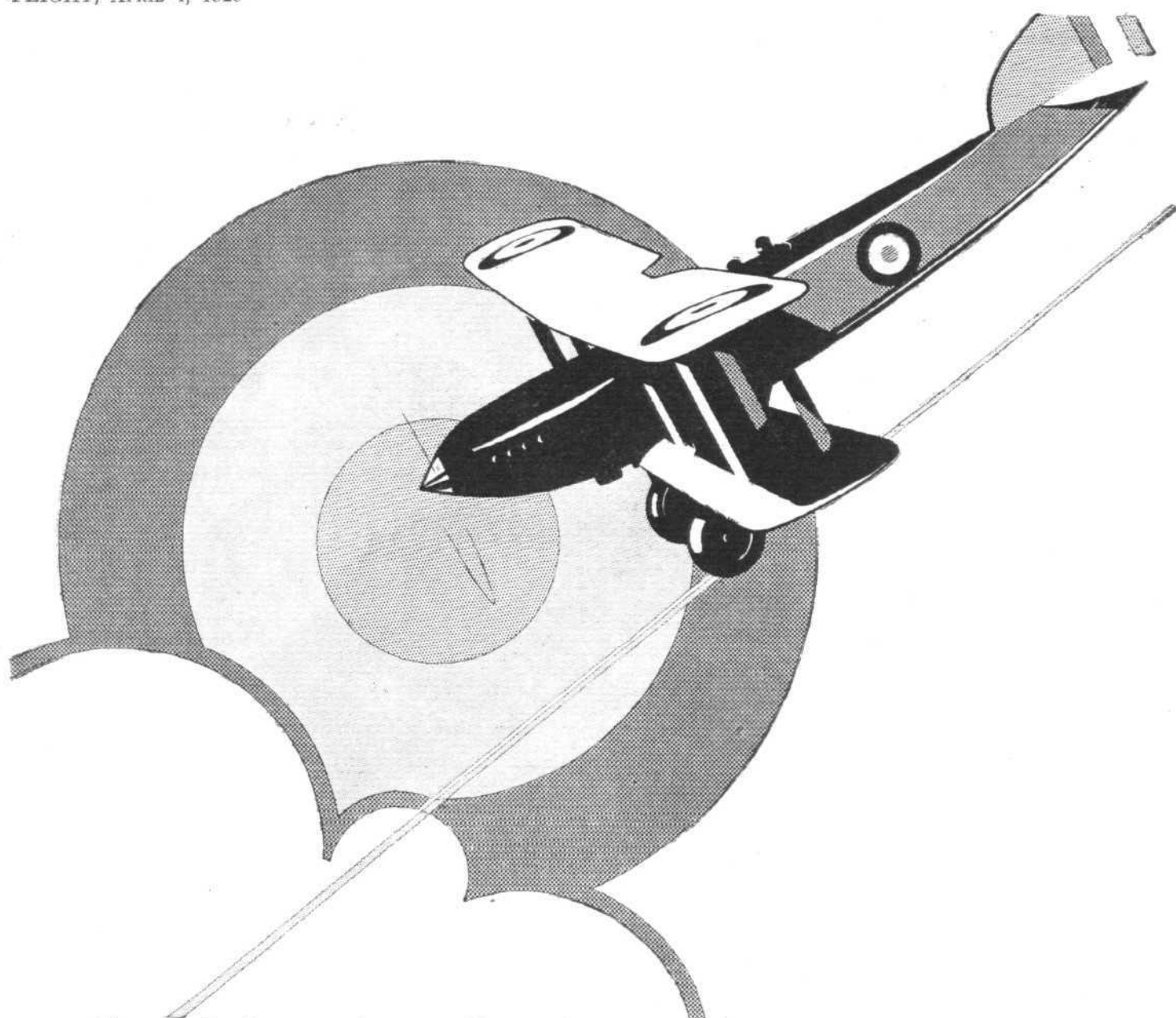
10×8 ... 6/- 12×10 ... 7/6 20×16 ... 21/-

HAND COLOURED, IN OILS
(GREY MOUNT):—

20×15 (MOUNT 24×19) ... 31/6

FLIGHT Office,
36, Great Queen St., W.C.2.
Holborn 3211.

Save time by using the Air Mail.



The predominance of outstanding and unsurpassed characteristics has placed Fairey aircraft in the position they hold to-day—the very forefront of modern production aircraft.

In the case of the Fairey III F. type, its leading features combine the highest efficiency and reliability with the utmost adaptability, both in equipment and accommodation, for many different types of engines. That these qualities are appreciated is shown by the many Air Forces throughout the world that are using Fairey Aircraft, including very large numbers with the Royal Air Force.

THE FAIREY AVIATION COMPANY LTD.
HAYES, MIDDLESEX

FAIREY

Aircraft

Kindly mention "Flight" when corresponding with advertisers.

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 1058. (No. 14. Vol. XXI.)

APRIL 4, 1929

Weekly, Price 6d.
Post free, 7d.

Editorial Offices : 36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone : Holborn 3211. Telegrams : Truditur, Westcent, London.

Annual Subscription Rates, Post Free.

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency.

CONTENTS

Editorial Comment :	PAGE
Real Empire Aviation	267
Air Route to India	269
International Flying Meeting at Lympne	275
Light 'Plane Clubs	281
Going Ahead in New Zealand	283
Airisms From the Four Winds	284
"Disrespectfully Dedicated to the 'Ground Flyer'"	285
Eddies	286
Royal Air Force	287
Company Doings	288

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1929,	
April 11	.... Lecture, "Wind Tunnel Methods of the Eiffel Laboratory," by M. Lapresle, before R.Ae.S. and Inst.Ae.E.
April 18	.... Lecture, "R.101," by Col. V. C. Richmond, before R.Ae.S. and Inst.Ae.E.
April 19	.... A.I.D. Technical Staff Association Dinner, Hotel Russell.
April	.... Exhibition of Sporting and Touring Aircraft, Switzerland.
May 21	.... Northampton Air Pageant.
June 19-22	.... F.I.A. Conference, Copenhagen.
June 27-30	.... Rotterdam International Air Meeting.
July 5-6	.... King's Cup Race.
July 13	.... R.A.F. Display at Hendon.
July 16-27	.... 7th International Aero Exhibition, Olympia.
July 25	.... Bleriot Cross-Channel Flight Anniversary Fete, Calais.
July 28	.... International Flying Meeting, Sweden.
Aug. 1-14	.... French Light Plane Meeting, Orly.
Aug. 15	.... International Balloon Race, Poland.
Sept. 6-7	.... Schneider Trophy Race, Solent.
Sept. 10-20	.... Aero Club de France Meeting, Le Baule.
Oct. 1	.... Gordon-Bennett Balloon Race, St. Louis, U.S.A.
Oct. 31	.... Guggenheim Safe-Aircraft Competition Closes.

EDITORIAL COMMENT



AT long last a start has been made with a real Empire Air Route. Saturday, March 30, 1929, deserves to go down in history as a red letter day for British aviation. It was on that day that an Armstrong-Whitworth "Argosy" belonging to Imperial Airways, Ltd., left Croydon aerodrome on the first stage of the air line to Karachi, and the machine carried Sir Samuel Hoare, Secretary of State for Air, and the Lady Maud Hoare, his wife, both of whom have already earned the gratitude of British aviation by a previous flight to India in the de Havilland "Hercules" some years ago, when the trans-desert air route was first taken over by Imperial Airways from the R.A.F. This country is fortunate in having a Secretary of State for Air who loses no opportunity to "practise what he preaches," and whose wife is ever ready to bear him company. We wish them both a safe and pleasant journey to Egypt, where they intend to leave the aircraft in order to examine on the spot some of the problems at the northern end of the next Empire air route, that from Egypt to the Cape.

As regards the London-Egypt-India air route, full particulars of this will be found elsewhere in this issue of FLIGHT. The outstanding features of this route are the transport of mails and passengers from London to Karachi in a week, and the fact that but for a night's journey by train from Basle to Genoa, the entire trip may be made in British aircraft driven by British engines and manned by British crews. This fact will doubtless be a source of comfort to many travellers who have taken the trouble of studying the statistics and reputation of Imperial Airways.

A study of the time-table shows that, leaving London aerodrome on a Saturday morning, the traveller or mails as the case may be reaches Karachi on the following Saturday, having saved something like a week by using the air line. Just at present, it may be assumed that mails will provide the bulk of the traffic. The new Armstrong-Whitworth "Argosies" which are to operate the London-Basle

section of the route are not yet ready, but in the meantime the older "Argosies" are doing the work. From Genoa to Alexandria, Egypt, Short "Calcutta" flying-boats will carry the traffic, and from Aboukir to Karachi the three-engined de Havilland "Hercules" machines will be used. Thus throughout the journey three-engined aircraft of proved reliability will be employed, and the regularity and safety of the route should be assured.

From the time-table it is to be noted that the first night is spent on the train between Basle and Genoa. The second (Sunday) night is spent at Naples, the Monday night at Athens, the Tuesday night at Tobruk, the Wednesday night at Gaza, the Thursday night at Basra, and the Friday night at Jask. Thus almost literally the traveller will spend each night in a different country. Yet he will be doing so without any inconvenience, in comfortable hotels and with sufficient time at his disposal for a thorough night's sleep. The times of departure, although some of them fairly early, are by no means outrageously so. For instance, Croydon is left at 10 a.m., Genoa at 10.30, Naples at 7.45, Athens at 10.30, Tobruk at 6.0, Gaza at 6.30, Basra at 6.0 and Jask at 7.30, all local times.

Prospective passengers will doubtless be interested in ascertaining how many hours each day they will have to spend in the aircraft in order to reach India in a week, and the time-table indicates that the number of hours to be flown each day is not by any means excessive. For example, London to Paris is done in $2\frac{1}{2}$ hours, and Paris-Basle in 3 hrs., giving $5\frac{1}{2}$ hrs. flying for the first day's journey. Genoa-Rome occupies 3 hrs., and Rome-Naples $1\frac{1}{4}$ hrs., so that the second day the passenger will spend but $4\frac{1}{4}$ hrs. in the air. On the third day, the stretch from Naples to Corfu will occupy $4\frac{1}{2}$ hrs., and Corfu to Athens another $3\frac{1}{4}$ hrs., giving $7\frac{3}{4}$ hrs. in the air. On the Tuesday $5\frac{1}{2}$ hrs. flying will see the passenger in Africa, with Athens to Suda Bay occupying $2\frac{1}{4}$ hrs., and Suda Bay-Tobruk $3\frac{1}{4}$ hrs.

Tobruk to Alexandria is rather a long stretch, taking $4\frac{1}{2}$ hrs., and Aboukir to Gaza accounts for another $3\frac{1}{2}$ hrs., with a total of 8 hrs. in the air for the Wednesday. This is quite sufficient, and the traveller will probably be glad of a night's rest at Gaza. The next morning the traveller will have to

face the longest "hop" of the whole journey, Gaza to Baghdad, which is estimated to require no less than $7\frac{1}{2}$ hrs.; yet after a stay of only three-quarters of an hour, the traveller will have to "emplane" again, reaching Basra in another 3 hrs., having spent no less than $10\frac{1}{2}$ hrs. in the air during the Thursday. Friday's flying, from Basra to Jask, totals some $8\frac{3}{4}$ hrs., divided into three stages as follows:—Basra-Bushire, $2\frac{3}{4}$ hrs.; Bushire-Lingeh $3\frac{1}{4}$ hrs., and Lingeh-Jask $2\frac{1}{4}$ hrs. On the Saturday the concluding section, Jask-Karachi, is flown in 7 hrs., divided into two equal stages of $3\frac{1}{2}$ hrs. each, an hour's halt being made at Gwadar.

The total flying time for the 5,000 miles or so is in the neighbourhood of 57 hrs., so that the average flying speed for the entire trip is approximately 88 m.p.h. This will probably not interest the passenger very much, who will more likely base his calculations on "lapsed time." This is something like 7 days and nights, and on this basis the average speed is reduced to 30 miles an hour. This is at least 50 per cent. better than a steamer could do, with an advantage to the air of a comfortable bed in an hotel each night.

The fare between London and Karachi has been fixed at £130, and assuming the distance to be some 5,000 miles works out at almost exactly 6d. per mile. In view of the fact that this fare includes hotel accommodation and meals, it cannot be said to be excessive by any means. The saving in time is about one week to India, and in the case of Iraq it is as much as 18 days. To a man whose time is valuable, the saving in time will very easily make the use of the air route worth while.

The air mail fees strike one as being remarkably reasonable. The surcharge to India is 6d. for a half-ounce letter, so that this can be sent at a total cost of $7\frac{1}{2}$ d. To Iraq the surcharge is only $4\frac{1}{2}$ d., and the saving in time is such that it is not worth while sending letters to Iraq by any other means. To Egypt and Palestine the surcharge is only $2\frac{1}{2}$ d. per half ounce, which is very cheap indeed. Altogether, the new London-Egypt-India air route is one which deserves the widest possible support, and one which will, we feel sure, rapidly become popular. Let us hope that other routes will be established with as little delay as possible.

Investiture at St. James's Palace

H.R.H. THE PRINCE OF WALES held an Investiture on behalf of His Majesty the King at St. James's Palace on March 28. The following were amongst those severally introduced into the presence of the Prince of Wales, when His Royal Highness invested them, on behalf of the King, with the respective Divisions of the Orders into which they have been admitted:—

Order of the Bath

Companion—Military Division:—Air Commodore Thomas Higgins.

Order of the British Empire

Military Division

Knight Grand Cross.—Air Vice-Marshal Sir Philip Game.

Commanders.—Group-Capt. Eric Nanson, R.A.F., and Wing Commander Hazelton Nicholl, R.A.F.

The Prince of Wales, on behalf of His Majesty, then conferred Decorations as follows:—

Royal Red Cross

Members

Miss Marion Welch, Princess Mary's Royal Air Force Nursing Service.

Distinguished Flying Cross

Flight-Lieut. George Stringer, R.A.F.

Air Force Cross

Sqdr.-Ldr. Edward Burling, R.A.F., Flight-Lieut. Clifford Busk, R.A.F., and Flight-Lieut. Sydney Pope, R.A.F.

The following were also amongst those present:—Air Chief Marshal Sir John Salmond (Principal Air Aide-de-Camp), and Group-Capt. P. F. M. Fellowes (Aide-de-Camp in Waiting).

Montreal Booming

MONTREAL will become the aviation centre of Canada under an agreement between International Airways of Canada, Canadian Vickers, Ltd., and the Fairchild aviation firm.

Manchester Aerodrome

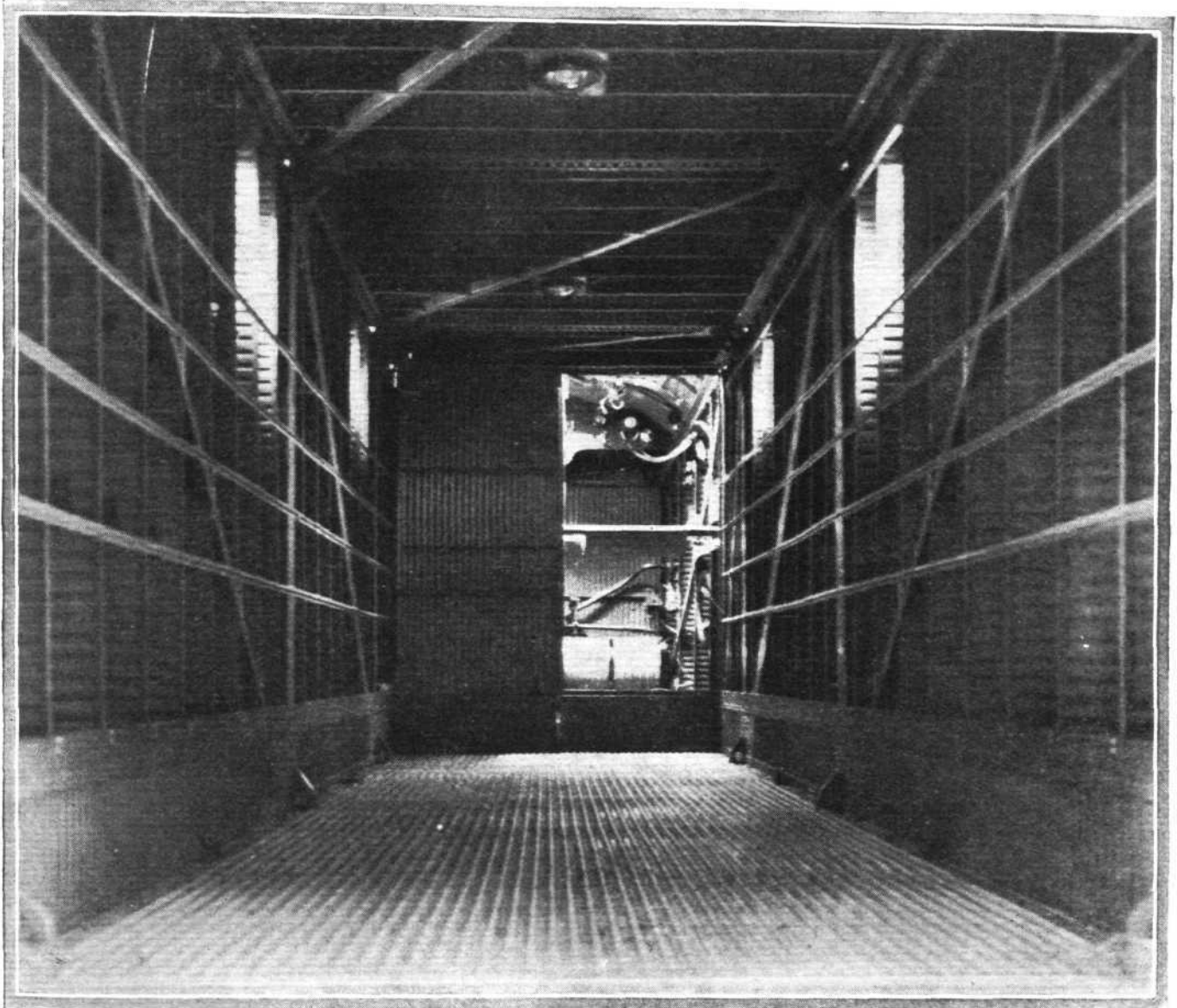
CAPTAIN KINGWELL, the chief pilot of Northern Airways, Ltd., made the first aeroplane landing at Manchester's temporary aerodrome at Wythenshawe on April 2, having flown from Hendon on his way to Glasgow.

New American Air Line

TRIMOTOR AIRWAYS, Inc., of New York, intends to establish an air service between New York and Rio de Janeiro. A fleet of eight seaplanes for the service is already in course of construction, each machine being capable of carrying 32 passengers.

VICKERS

(AVIATION) LIMITED



THE VICKERS "JAGUAR-VELLORE" AIR FREIGHTER.

Weight unladen	.. .. .	4692 lbs.
Load (Pilot, Fuel, Freight)	.. .. .	4808 lbs.
Cabin Capacity	.. .. .	5½ Shipping tons.
Cabin Dimensions: Length 12' 10", Width 4' 0", Height 4' 10".		

All Enquiries to :—

VICKERS HOUSE, BROADWAY, LONDON, S.W.1.

Telephone: VICTORIA 6900.

Telegrams: VICKERS, SOWEST, LONDON.

Works: WEYBRIDGE, SURREY.



Save time by using the Air Mail.



1ST "CIRRUS"

FIRST SOUTH AFRICAN AERIAL DERBY

won by a

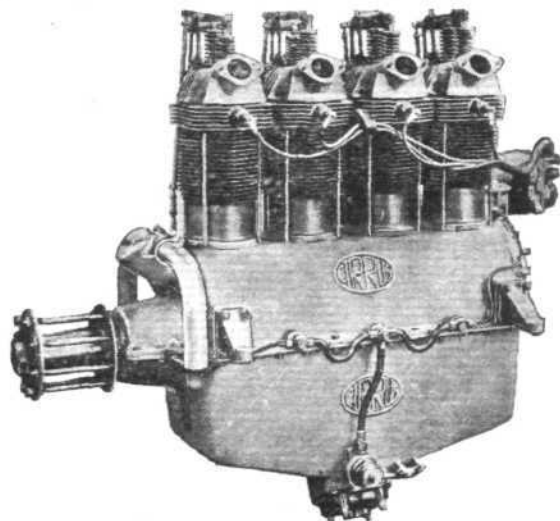
CIRRUS ENGINE.

On the 19th February, 1929, the first South African Aerial Derby was held at Capetown, the distance being approximately 125 miles round a triangular course.

The race was won by Lt. R. R. BENTLEY, M.C., A.F.C., starting from scratch, flying a "CIRRUS" Mk. III. MOTH.

Specify a CIRRUS !

*The Proven Light
Aeroplane Engine.*



Manufactured by

85/95 h.p. "CIRRUS" Mk. III.

THE PIONEERS OF 4 CYL-IN-LINE AIR-COOLED LIGHT AERO ENGINES.

CIRRUS AERO ENGINES LTD.,

Regent House,

89, Kingsway, London, W.C.2.

Cables :
"OCIRRUSO, LONDON."

Telephone :
HOLBORN 4076

Kindly mention "Flight" when corresponding with advertisers.

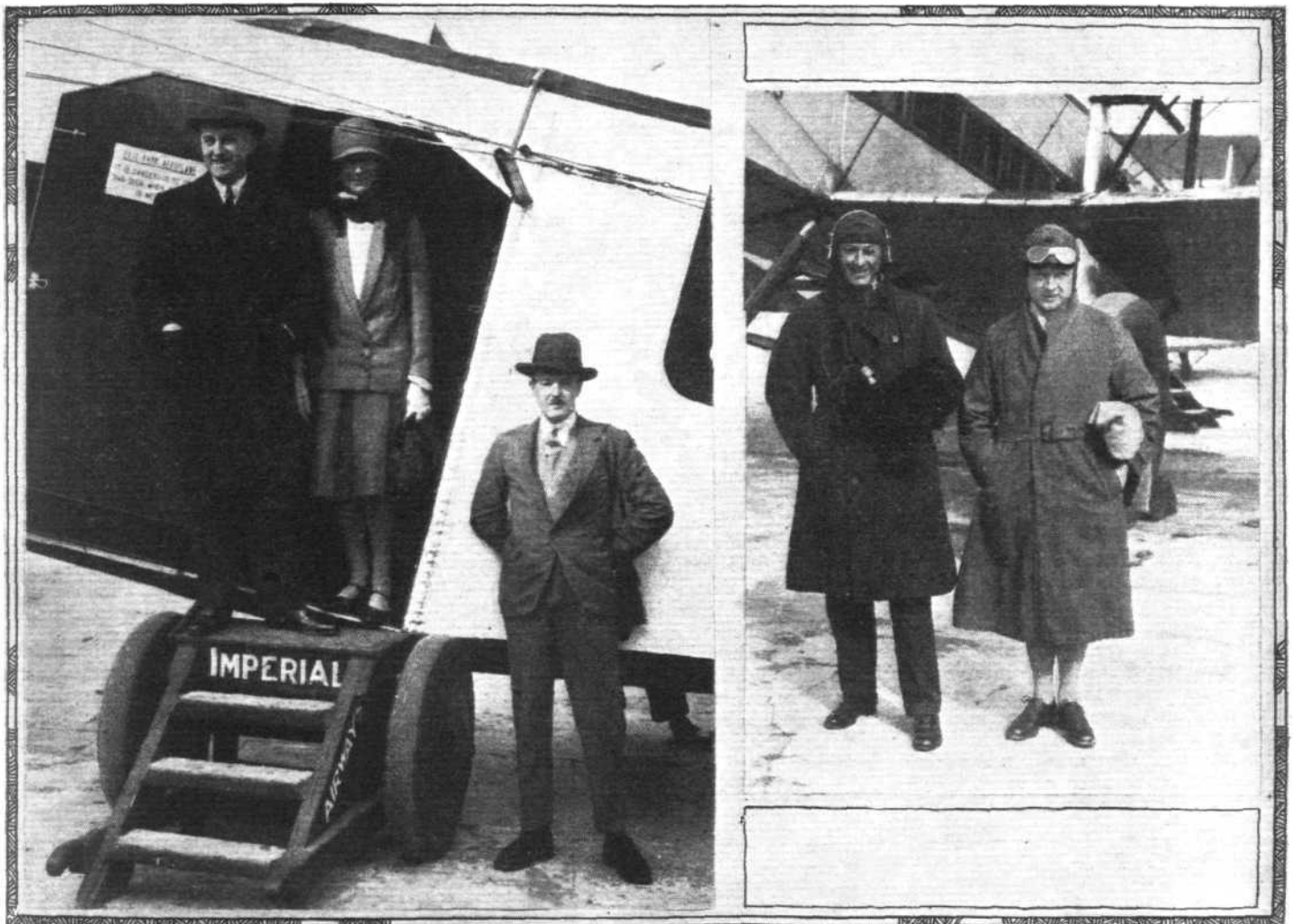
THE AIR ROUTE TO INDIA

A Real Start at Last Made With Empire Air Services

MARCH 30, 1929, will be a date of considerable importance in the history of British Aeronautics, for it marked what may be called the *real* beginning of Empire Air Routes by the inauguration of the London-India Air Service. True, a preliminary start with the speeding up of mails to and from India was made in December, 1926, with the inauguration of the Cairo-Karachi air service, but, as is common knowledge, owing to a hitch with the Persian Government, only the section between Cairo and Basra has been in operation, and meanwhile negotiations proceeded between the British and Persian Governments—and with European Governments as regards the section from England to Cairo—with a view to "clearing the air" for the London-India route. Now at long last the troubles have been finally,

certain modifications as to route and times may be made during the initial stages of the service. Slight changes from the original programme have been made in the ports of call over the Mediterranean section—originally it was via Syracuse and Navarino, now it is via Corfu, Athens and Suda Bay. From Tobruk to Karachi the route remains as before.

As at present arranged only mail will be carried, but later, passengers will be carried as well. The outward journey is scheduled to start from London each Saturday, Karachi being reached the following Saturday. The homeward journey starts each Sunday and finishes the following Sunday. From Croydon the mail (and later the passengers) will be flown, in Armstrong-Whitworth "Argosy" air liners (3-Armstrong-Siddeley "Jaguars"), via Le Bourget to



THE AIR ROUTE TO INDIA: The Inauguration. On the left is Sir Samuel Hoare, who was a passenger in the "City of Glasgow," with Lady Maud Hoare, and Mr. C. Ll. Bullock, his private secretary, who accompanied him. On the right is the pilot, Capt. A. S. Wilcockson, and Maj. H. G. Brackley of Imperial Airways.

we hope, overcome, and the air service to India is an actuality—and the extension to Australia, and other Empire air routes, loom in the not far distant future.

By means of this London-India service—a combination of landplane, seaplane and train—India will be brought within a little over 6 days' journey of England as compared with the 15 days now occupied by the ordinary land and sea route. Similar advantages are obtained over intermediate stages of the route—for instance, mails will be delivered to Alexandria and Cairo in four days as against the present six to eight days; to Baghdad and district in five and a half days (by ordinary route, via Bombay, this takes 23 days).

The Service

We have already published in FLIGHT particulars of this new service, but we think, on this occasion, it will not be out of place if we repeat them, briefly, here. It should be noted, however, that while all arrangements for the route—machines, equipment, personnel, aerodromes, wireless stations, etc.—have been completed, it is probable that

Basle. A transfer is then made to the train, which will travel at night, under the Alps, to Genoa. On the Sunday the journey will be resumed once more by air, this time with Short "Calcutta" flying-boats (3 Bristol "Jupiter" engines) to Alexandria, arriving there on the Monday, via Rome (Ostia), Naples, Corfu, Athens, Suda Bay, and Tobruk. Connection is then made with the existing Cairo-Basra service.

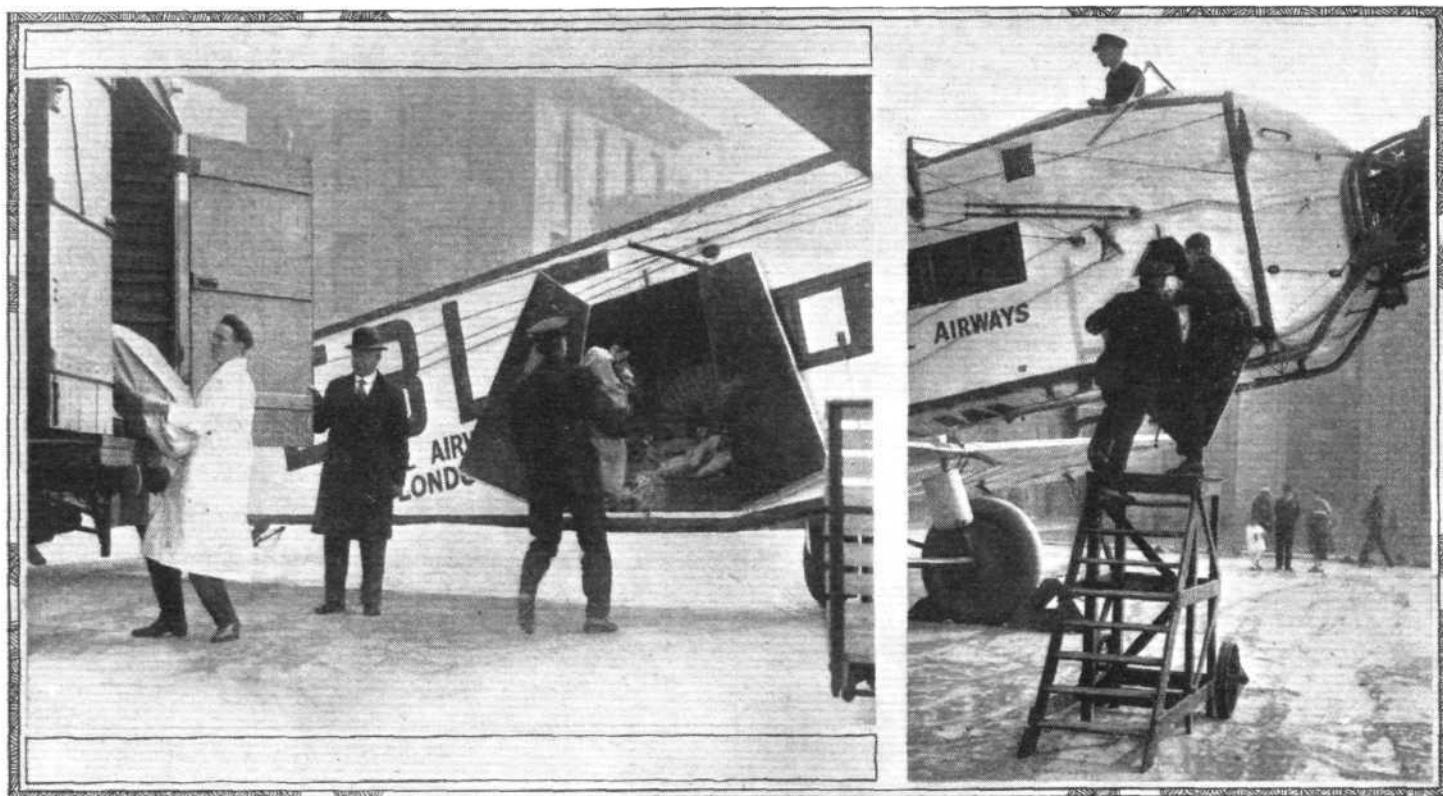
Another change is now effected, and the rest of the route flown in D.H. "Hercules" landplanes (3 Bristol "Jupiter" engines).

Details of the times and route will be found in the accompanying table (provisional).

The Machines

As previously stated, three types of machines are being used on the England-India air route.

The Armstrong-Whitworth "Argosy."—On the first section, London-Basle, a distance of about 485 miles, Armstrong-Whitworth "Argosy" landplanes, fitted with three Armstrong



[“FLIGHT” Photographs]

THE AIR ROUTE TO INDIA: Loading up the Armstrong-Whitworth “Argosy” air liner “City of Glasgow” with mails at Croydon, on March 30. Some 1,200 letters were carried, even in the small compartment in the nose.

Siddeley “Jaguar” engines, will be used. At present, the standard types, as already in service on Imperial Airways, will be employed, but subsequently it is intended to put into operation the new improved “Argosies” fitted with geared “Jaguars.” These latter machines—some brief particulars of which were published in FLIGHT for March 14 last—possess several improvements and will have a much better performance. In other respects, however, they are similar to the “City of Glasgow” type which opened the service on Saturday. The “Argosy” air liner was described in detail in FLIGHT for July 1, 1926, but the following main characteristics may be of interest:—Span, 90 ft.; length, 65 ft.; wing area, 1,890 sq. ft.; maximum speed, 110 m.p.h.; cruising speed, 90-95 m.p.h.

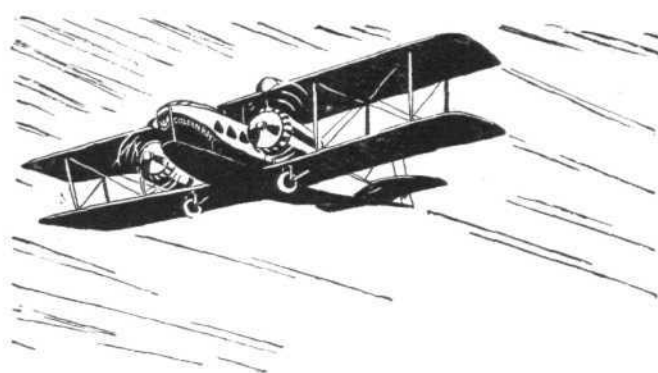
The Short “Calcutta.”—For the section between Genoa and Alexandria, a distance of some 1,700 miles over water, the

Short “Calcutta” flying-boat will be employed. These flying-boats are of all-metal construction and are fitted with three Bristol “Jupiter” engines. Descriptions of this flying-boat have appeared in FLIGHT (January 6, 1927, and February 23, 1928), and it has already seen service on the Southampton-Channel Islands, and Liverpool-Belfast air routes. The principal characteristics are:—Span, 93 ft.; length, 64 ft. 9 in.; wing area, 1,825 sq. ft.; weight empty, 12,600 lb.; seating capacity, 15 passengers and crew of three; speed range, 58-120 m.p.h.

The De Havilland “Hercules.”—A landplane is used once more on the section between Alexandria and Karachi, some 3,000 miles. This is the de Havilland “66” or “Hercules,” fitted with three Bristol “Jupiter” engines, which is the type already operating the Cairo-Basra service. The “Hercules” is a tractor-fuselage biplane of wood-and-metal construction—steel



Sketch map of the Empire Air Route to India, which was inaugurated on March 30.



"The Golden Ray"—the new fast Air Union service to Paris—will operate exclusively on Prattis

Each machine on the "Golden Ray" service supplies the horsepower of two Rolls-Royce cars per passenger. The power producing qualities of the fuel used is, therefore, a matter of great importance. The Air Union is noted for its speed and comfort and it has an unbroken record for safety. Obviously the Company could not afford to take chances with petrol—they rely implicitly on Prattis.

*Speed and Security
depend upon Purity*

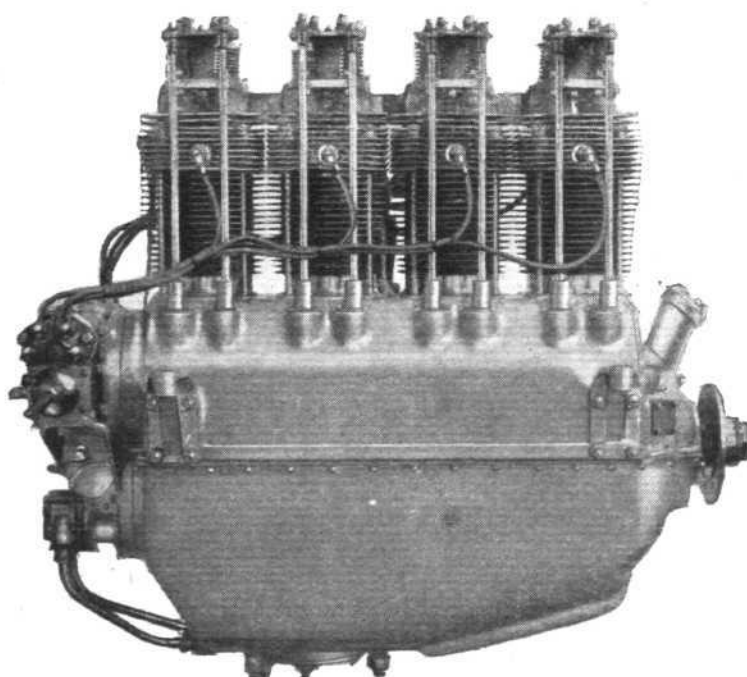


Save time by using the Air Mail.

ROBUST



GIPSY



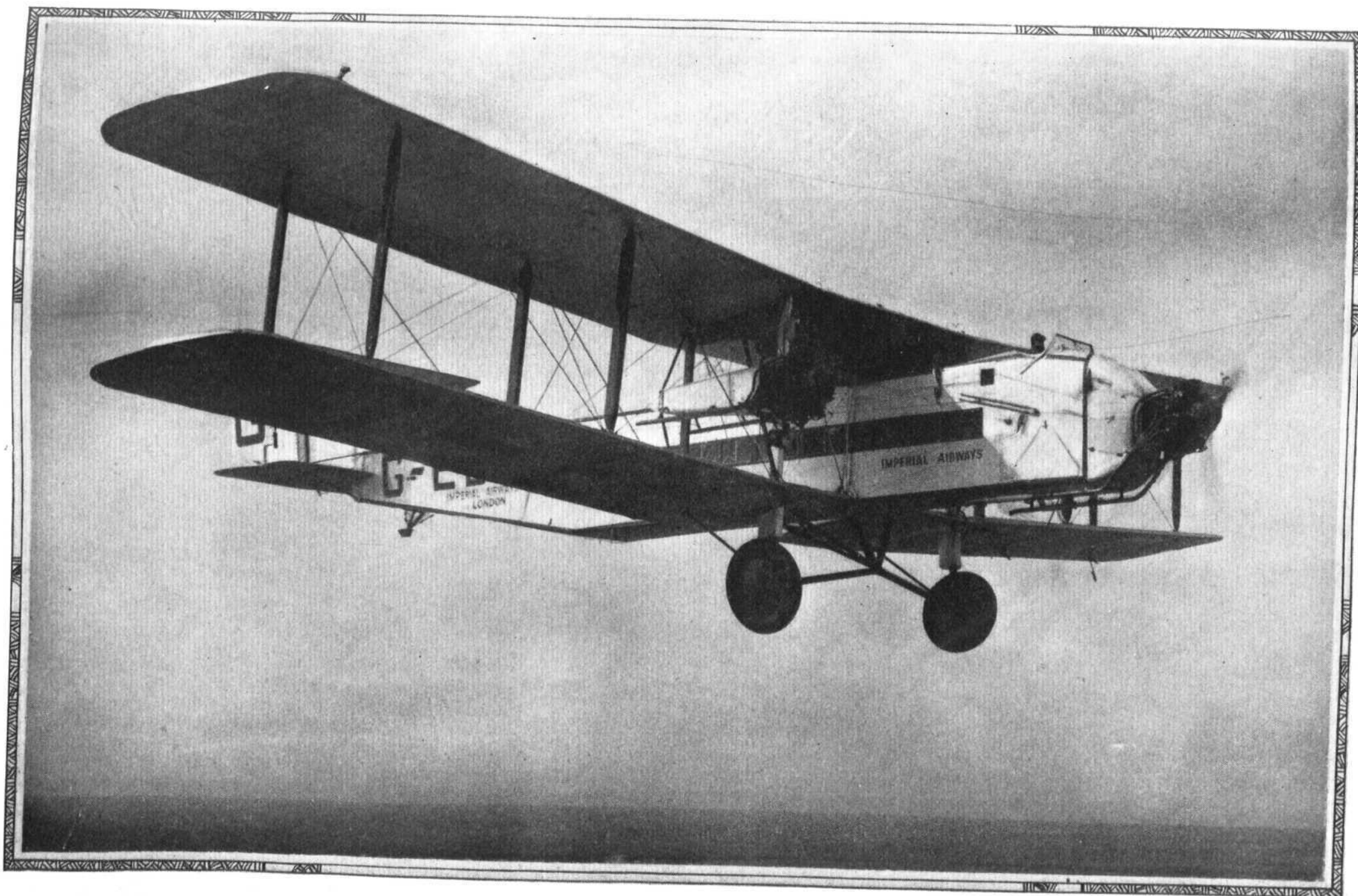
HUNDREDS IN WORLD-WIDE USE

The de Havilland Aircraft Co., Ltd.,
Stag Lane Aerodrome, Edgware, Middlesex.

The Wright Aeronautical Corporation,
Paterson, New Jersey, U.S.A.

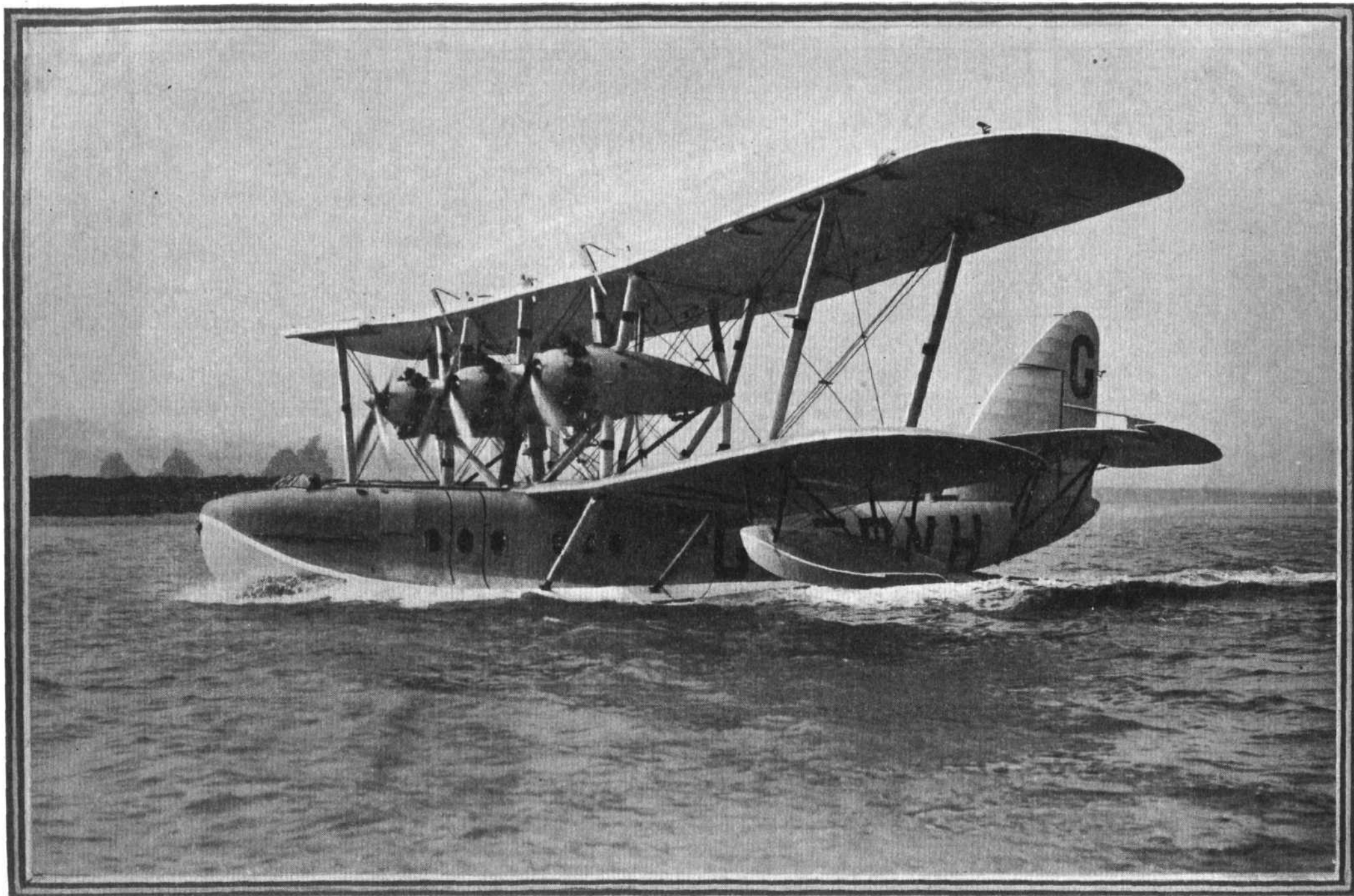
Streets

Kindly mention "Flight" when corresponding with advertisers.



THE AIR ROUTE TO INDIA: The Armstrong-Whitworth "Argosy" (three Armstrong-Siddeley "Jaguars") "City of Glasgow," which opened the service on March 30.

[" FLIGHT " Photograph



THE AIR ROUTE TO INDIA : The Short " Calcutta " all-metal flying-boat (three Bristol " Jupiters ") which operates the Genoa-Alexandria section. [" FLIGHT " Photograph

Free-from-trouble Record!

“ON September 15, 1928, the Far East Flight of the R.A.F. reached a happy journey's ending by arriving at Singapore, and completing a voyage of 22,600 statute miles. We in this country now safely claim that this all-British, all-metal flight is the greatest achievement yet in aviation.

What the four flying boats of the flight did was to cover a colossal distance in company at an amazingly uniform speed practically without any minor mishaps, and so the flight has set up a free-from-trouble record.

This freedom proves two things: firstly, the complete competence of R.A.F. personnel; and secondly, the complete reliability of British aircraft, aero engines, and accessories.”

Aeroplane, 16-1-29

THE AIRCRAFT WERE
SUPERMARINE-NAPIER “SOUTHAMPTONS”
—THE ENGINES—

NAPIER

The finest aero engine in the World

D. NAPIER & SON LTD.
ACTON · LONDON · W3

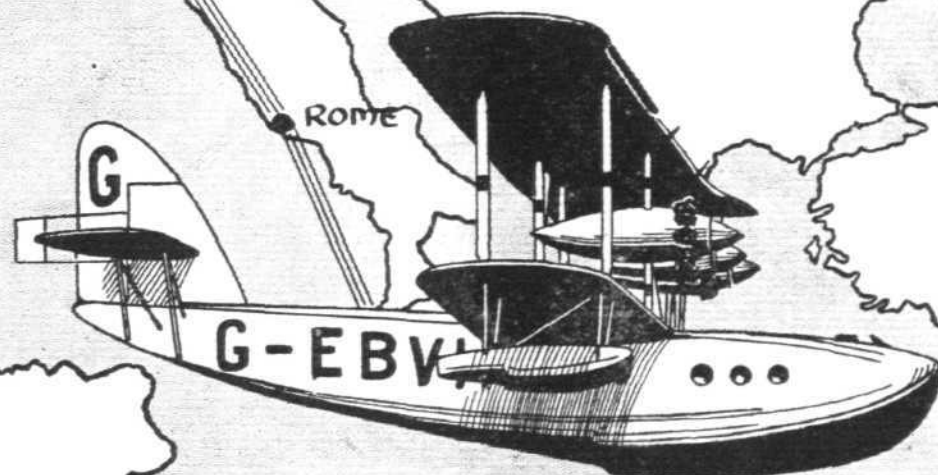
Save time by using the Air Mail.

• THE SAFE WAY . . . AIR TO THE GOLDEN

"Bristol"

MORE THAN 5,000 MILES IN 6¼ DAYS

OF WHICH ABOUT 4,500 MILES HAVE BEEN COVERED
BY JUPITER ENGINED AIRCRAFT IN
SOME 52 FLYING HOURS.



THE BRISTOL • • • FILTON •

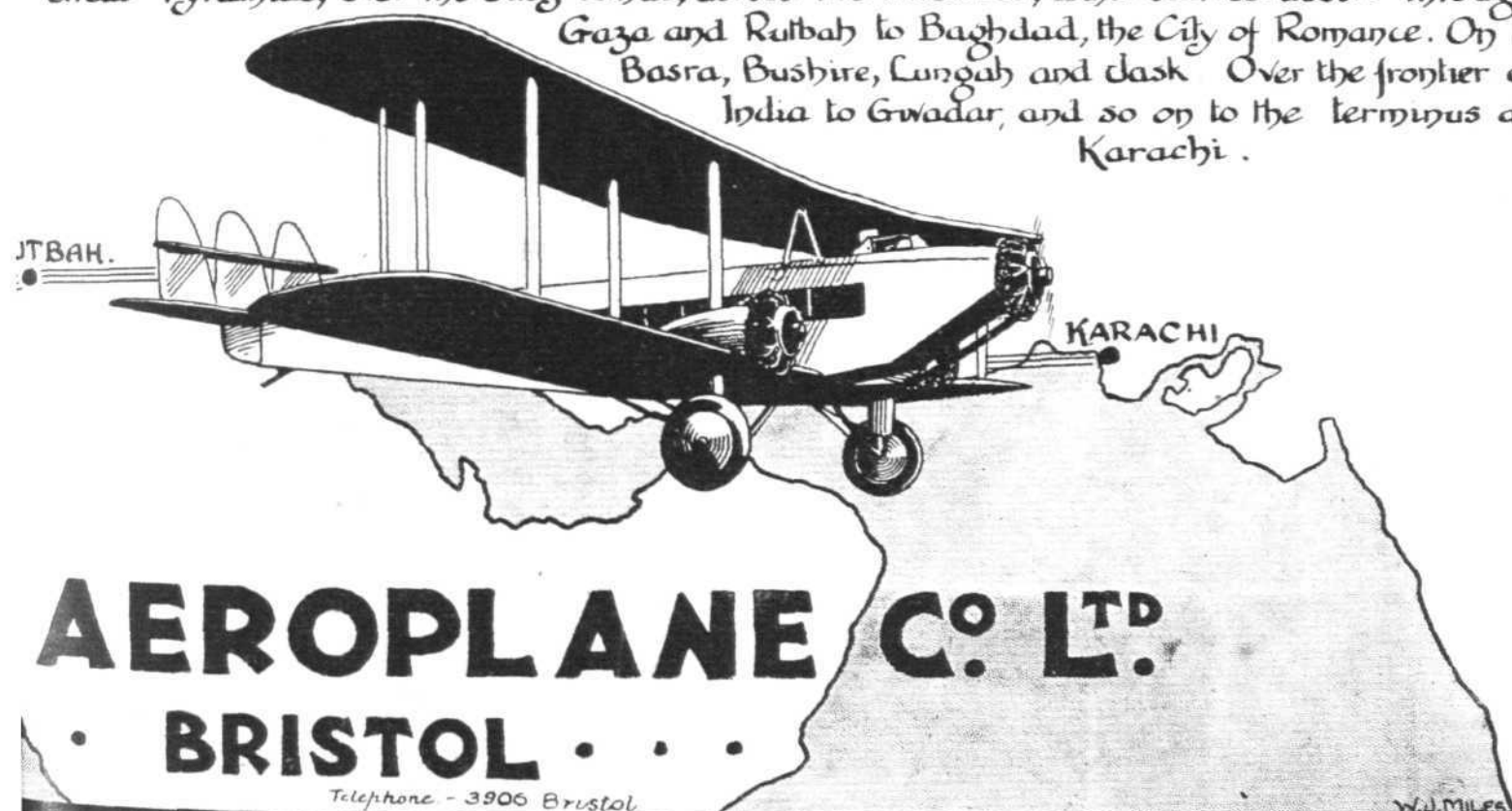
Telegrams: - AVIATION, Bristol.

Kindly mention "Flight" when corresponding with advertisers.

WAY . . . THE SWIFT WAY. EAST WITH THE JUPITER

LONDON to INDIA in 6¼ days - the longest Air Line in the World.

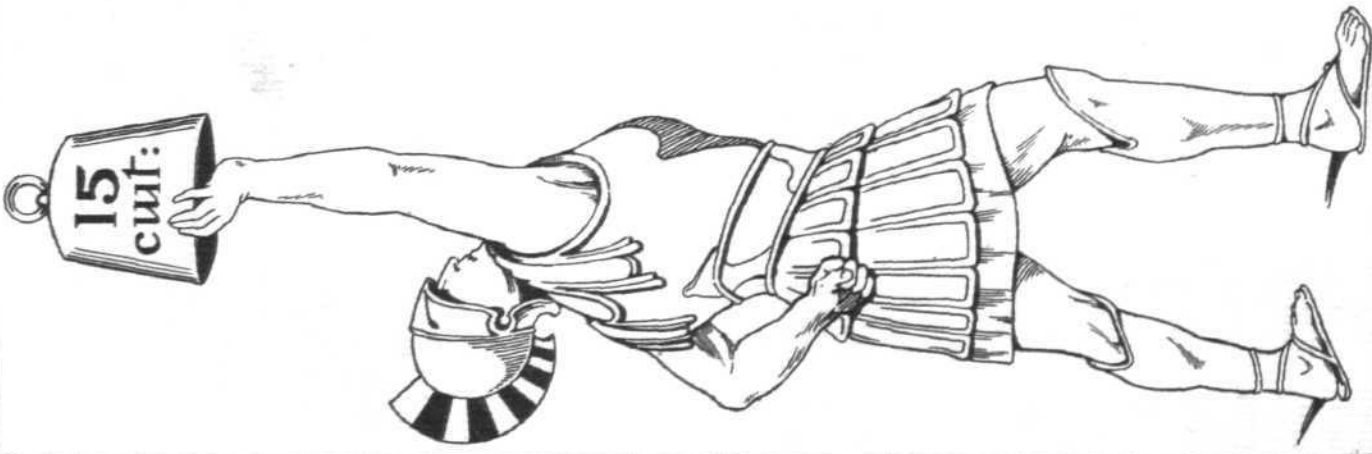
Although the newest of the regular services of Imperial Airways Ltd., it has not been started upon without due preparation. For more than two years D. H. 'Hercules' machines fitted with "Bristol" JUPITER engines have maintained, with 100% efficiency a regular service between Cairo and Basra. For the main extensions of the route from Genoa to Egypt and - on the eastern side - from Basra to Karachi it is the well-proved JUPITER which has been chosen for the task. ~ ~ ~ From London to Basle by air and by night train to Genoa from where the flight with JUPITER reliability to the minaret-studded Empire of India is commenced. Over the blue waters of the Mediterranean in the Short 'Calcutta' engined with three JUPITERS, skirting the rugged coasts of Italy and calling at the ancient city of Rome, to Syracuse in Sicily; on to Navarino in Greece and to Tobruk on the African Continent - over 750 miles of open sea, and a further 350 miles over the ocean to Alexandria - ~ ~ ~ A change of aircraft - this time to the D. H. 'Hercules' machines with reliability again assured by three "Bristol" JUPITERS. Eastwards again over the sandy wastes of the ancient empire of the Ptolemys and the Pharaohs, past the Great Pyramids, over the Suez Canal, across the trackless, wind-scarred desert through Gaza and Rulbah to Baghdad, the City of Romance. On to Basra, Bushire, Lungeh and Jask. Over the frontier of India to Gwadar, and so on to the terminus at Karachi.



Telephone - 3906 Bristol

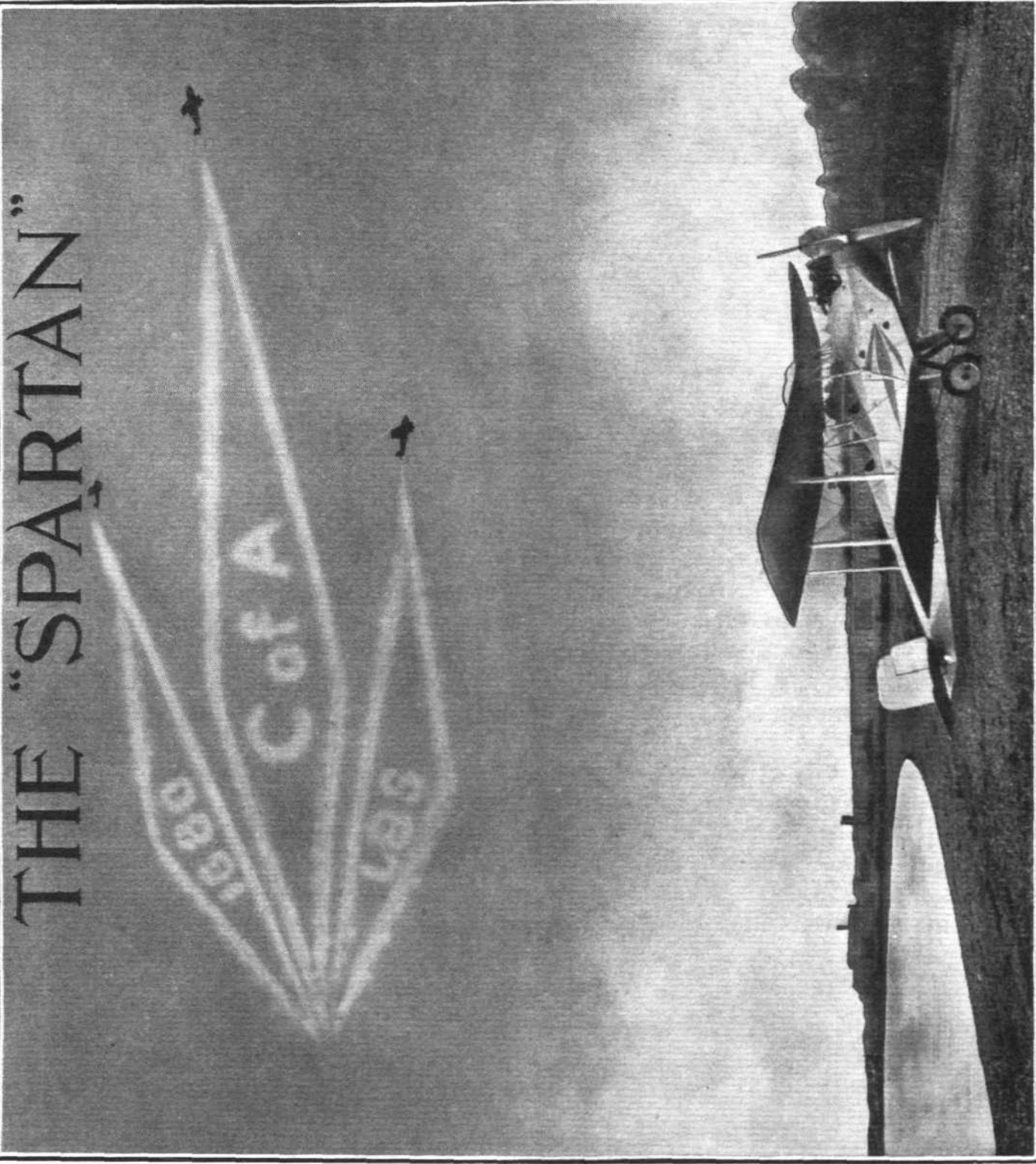
W.J. MILES

Save time by using the Air Mail.



15 cwt:

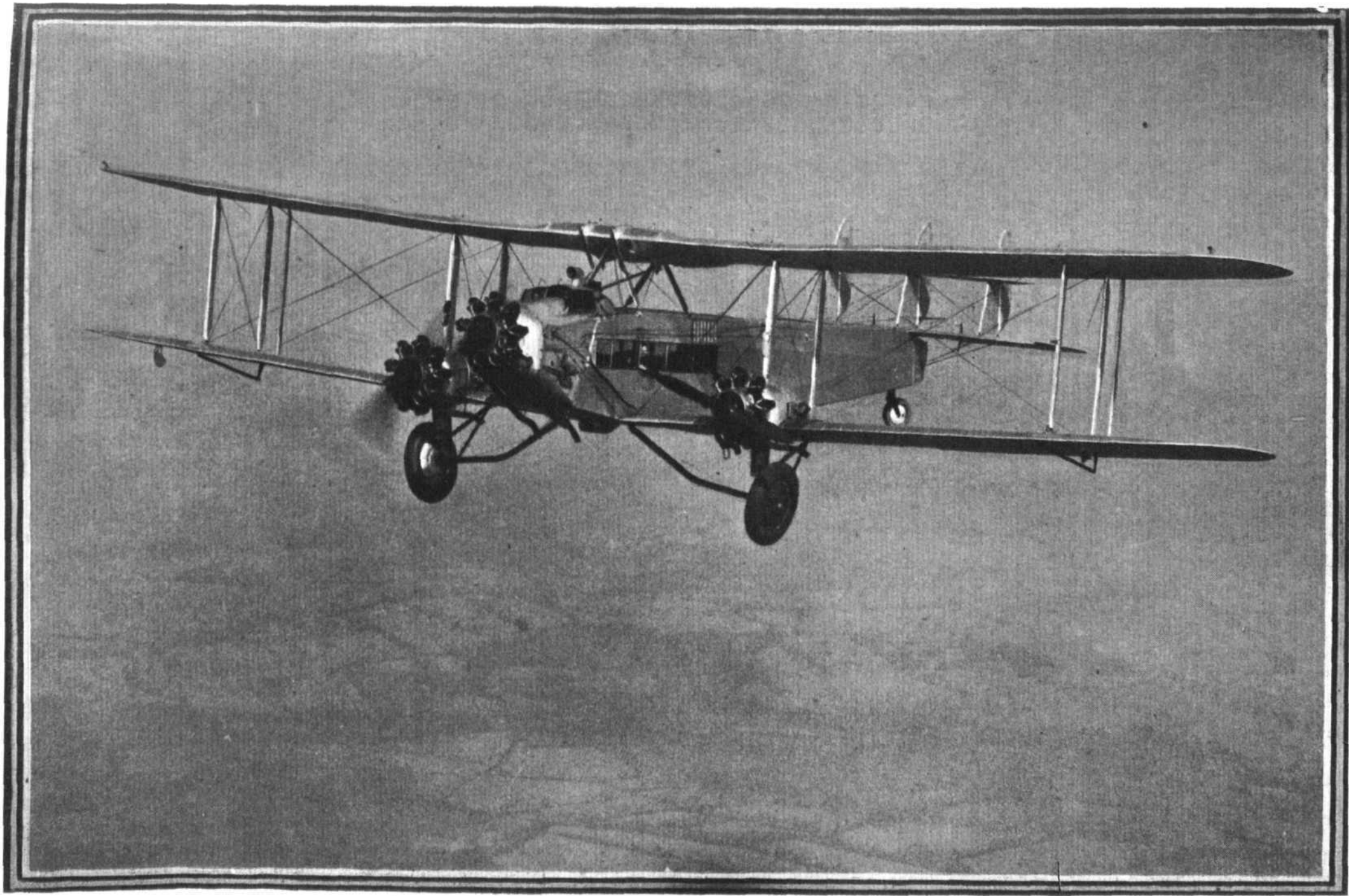
THE "SPARTAN"



C of A

SIMMONDS AIRCRAFT LTD: SOUTHAMPTON.

Kindly mention "Flight" when corresponding with advertisers.



THE AIR ROUTE TO INDIA : The D.H. " Hercules " (three Bristol " Jupiters "), the type which will operate the Egypt-India section. [" FLIGHT " Photograph

tube being employed for the fuselage. This machine has also been fully described in FLIGHT (June 10, 1926), so it will be sufficient to say here that the "Hercules" has already proved its qualities for some time past on the Cairo-Basra service, and is also being used on Australian air services. The principal characteristics are:—Span, 79 ft. 6 in.; length, 56 ft. 6 in.; wing area, 1,547 sq. ft.; weight, empty, 8,855 lb.; seating capacity, 7-15 passengers; speed range, 52-130 m.p.h.

The Wireless Organisation

The wireless organisation for the air-mail service to India has been completed so that the aircraft engaged will be in touch with aerodrome ground stations throughout the 5,000 air miles of the journey. As wireless will play a very important part in this—as indeed it should in any big air service—we think the following details of the wireless equipment will be of interest.

All the aircraft are equipped with Marconi wireless apparatus of the latest type, and an inter-communicating chain of ground stations has been arranged. On the first section

A part of the third and final section of the route, through Basra and over the Persian Gulf to Karachi, has already been in operation for some time, employing De Havilland aircraft fitted with Marconi AD6 apparatus and communicating with R.A.F. stations, and a $\frac{1}{2}$ -kw. station at Rutbah Wells which was supplied by the Marconi Company to the Iraq Posts and Telegraphs Department. During the flight from Basra to Karachi the machines will be in touch with two Marconi stations in Persia, at Chabar and Bunda Abbas. Persian operators for these stations have been trained at the Marconi Company's works at Chelmsford. The terminal wireless station at Karachi is one of the most powerful aerodrome stations installed at any air port, consisting of a 6-kw. Marconi transmitter with direction finder receiving apparatus.

Many features of the Marconi apparatus for this service have been specially designed to meet the conditions existing on this new Empire route. The constant-speed windmill generator which provides power for the wireless installation will also supply current for the internal and external lighting

ENGLAND—INDIA AIR SERVICE.

Provisional Time Table.

Eastbound		LST	GMT	DAY	Westbound		LST	GMT	DAY
LONDON (Airways House)	dep.	09.10	09.10	Sat.	KARACHI	dep.	10.00	04.30	Sun.
" (Croydon Aero.)	dep.	10.00	10.00	"	GWADAR	arr.	13.40	08.10	"
PARIS (Le Bourget Aero.)	arr.	12.30	12.30	"	"	dep.	14.40	09.10	"
"	dep.	13.45	13.45	"	JASK	arr.	15.35	11.40	"
BASLE (Birsfelden Aero.)	arr.	17.45	16.45	"	"	dep.	06.30	02.35	Mon.
" (Central Station)	dep.	21.55	—	"	LINGEH	arr.	08.50	04.55	"
GENOA (P. Principe Stn.)	arr.	09.15	—	Sun.	"	dep.	09.35	05.40	"
" (Air Port)	dep.	10.30	09.30	"	BUSHIRE	arr.	12.50	09.30	"
ROME—Ostia	arr.	13.30	12.30	"	"	dep.	13.35	10.15	"
"	dep.	14.30	13.30	"	BASRA	arr.	15.55	12.55	"
NAPLES	arr.	15.45	14.45	"	"	dep.	05.00	02.00	Tues.
"	dep.	07.45	06.45	Mon.	BAGHDAD	arr.	08.30	05.30	"
CORFU	arr.	13.15	11.15	"	"	dep.	09.15	06.15	"
"	dep.	14.15	12.15	"	GAZA	arr.	16.45	14.45	"
ATHENS	arr.	17.30	15.30	"	"	dep.	08.00	06.00	Wed.
"	dep.	10.30	08.30	Tues.	ALEXANDRIA (Aboukir)	arr.	11.25	09.25	"
SUDA BAY	arr.	12.45	10.45	"	" (Harbour)	dep.	13.30	11.30	"
"	dep.	13.45	11.45	"	TOBRUK	arr.	17.00	16.00	"
TOBRUK	arr.	16.00	15.00	"	"	dep.	09.30	08.30	Thur.
"	dep.	06.00	05.00	Wed.	SUDA BAY	arr.	13.45	11.45	"
ALEXANDRIA (Harbour)	arr.	11.30	09.30	"	"	dep.	14.45	12.45	"
" (Aboukir)	dep.	14.05	12.05	"	ATHENS	arr.	17.00	15.00	"
GAZA	arr.	17.30	15.30	"	"	dep.	08.45	06.45	Fri.
"	dep.	06.30	04.30	Thur.	CORFU	arr.	12.00	10.00	"
BAGHDAD	arr.	15.00	12.00	"	"	dep.	13.00	11.00	"
"	dep.	15.45	12.45	"	NAPLES	arr.	16.30	15.30	"
BASRA	arr.	18.45	15.45	"	"	dep.	10.45	09.45	Sat.
"	dep.	06.00	03.00	Fri.	ROME—Ostia	arr.	12.30	11.30	"
BUSHIRE	arr.	09.00	05.40	"	"	dep.	13.30	12.30	"
"	dep.	09.45	06.25	"	GENOA (Air Port)	arr.	16.30	15.30	"
LINGEH	arr.	14.10	10.15	"	" (P. Principe)	dep.	19.05	—	"
"	dep.	14.55	11.00	"	BASLE (Central Stn.)	arr.	06.16	—	Sun.
JASK	arr.	17.15	13.20	"	" (Birsfelden Aero.)	dep.	08.30	07.30	"
"	dep.	07.30	03.35	Sat.	PARIS (Le Bourget Aero.)	arr.	10.45	10.45	"
GWADAR	arr.	12.35	07.05	"	"	dep.	11.45	11.45	"
"	dep.	13.35	08.05	"	LONDON (Croydon Aero.)	arr.	14.15	14.15	"
KARACHI	arr.	17.15	11.45	"	" (Airways House)	arr.	15.00	15.00	"

Note.—LST = Local Standard Time

GMT = Greenwich Mean Time.

of the route, London-Basle, the present wireless organisation for continental aviation will be employed. This consists of the powerful Marconi aerodrome station at Croydon, French stations at Le Bourget and other intermediate places on the route, and the Marconi station at Basle. The machines operating this section of the route are fitted with Marconi sets of 150-watts power, of the well-known type AD6, adapted for communication over distances of 200 to 300 miles either by telephony or telegraphy.

From Genoa to Alexandria it is operated by the three "Calcutta" flying-boats, which are fitted with the more powerful Marconi type AD8 sets. These sets are also adaptable for telegraphy or telephony, enabling the pilots to keep in touch with Italian and British Air Ministry wireless stations until arrival at Alexandria. In addition, Imperial Airways, who are conducting the London-Karachi service, have stationed a depot ship at a point in the Greek Archipelago. This has been fitted with a Marconi valve transmitter of $\frac{1}{2}$ -kw. power (type U), and suitable receiving equipment (Marconi type RG19 receiver), and will be capable of communicating with Malta, Alexandria (Aboukir), and other stations concerned with the service.

of the aircraft. In the unlikely event of a forced landing being necessary the same generator can be used to supply emergency power to the transmitter either by the use of the battery normally used for lighting or, if it is required to work for long periods, by means of a special coupling arrangement to the small petrol engine used for starting the main engines of the aircraft. Thus, even if a machine were forced to land in the solitudes of the desert country which is to be found along the route, wireless communication could be established with the nearest ground station and any required assistance could be obtained.

The Air Ministry and Imperial Airways, Ltd., with the co-operation of the Marconi Company, have given very careful consideration to the wireless requirements of this first long-distance Empire aviation route, and the comprehensive system of communications provided both for the ground stations and aircraft should render the England-India air route among the safest and most efficient in the world.

The Inauguration

On March 30, at 10 a.m. (or, to be strictly accurate, one minute and a half later), the Imperial Airways Armstrong-

(Continued on page 288)



AND THE NAME OF ALL THESE WAS AVRO

One morning, early, some twenty-one years ago, an aeroplane rose uncertainly into the air. It didn't stay there very long. Just long enough to make history. For until that moment nothing British had ever before left the ground. It was an Avro.

Three years later a seaplane made itself famous in just the same way. It was an Avro.

In 1917 the first aeroplane was evolved in which scientific flying instruction became possible. It was an Avro.

A year later, the R.A.F. were able to use for the first time one type of machine and one only for training pilots. This machine has been standard training equipment in the R.A.F. ever since. It was an Avro.

In 1919 the owner-flyer appeared ; the first modern light aeroplane took the air, and has, so to speak, stayed there ever since. It was an Avro.

Last year, light aeroplanes flew in record time from London to Berlin, from London to Australia, and from London to Capetown. They were Avros.

AVRO

A. V. ROE & CO. LTD., 166 PICCADILLY, LONDON, W. 1

Works:—NEWTON HEATH, MANCHESTER: AND HAMBLE, SOUTHAMPTON

Save time by using the Air Mail.

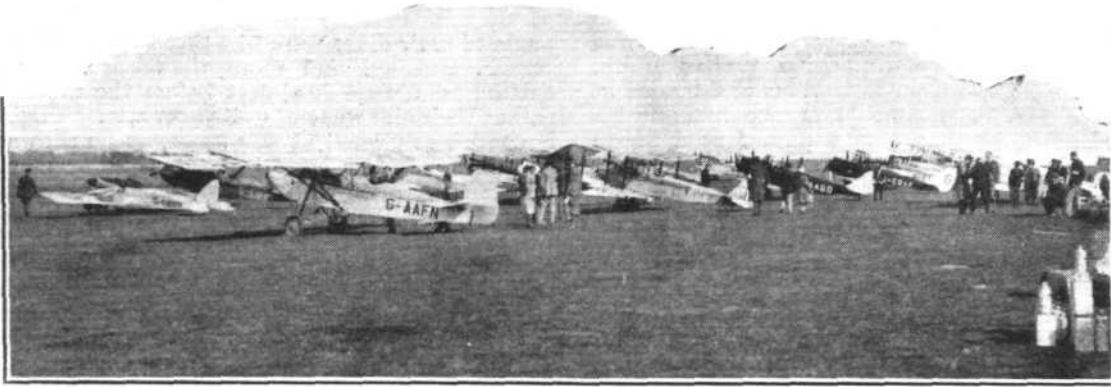
THE
SUPERMARINE AVIATION WORKS, LTD.
Proprietors: VICKERS (AVIATION) LTD.
SOUTHAMPTON.
ENGLAND.

DESIGNERS AND BUILDERS
OF THE
FAMOUS
"SOUTHAMPTON"
TWIN
ENGINE
FLYING BOATS



THE FIRST OF EIGHT SERVICE TYPE "SOUTHAMPTONS" (LORRAINE ENGINES)
TO THE ORDER OF THE ARGENTINE NAVAL AIR SERVICE.

Kindly mention "Flight" when corresponding with advertisers.



CINQUE PORTS FLYING CLUB'S EXCELLENT EASTER PROGRAMME

THE first important flying meeting of the year was one of the best attractions at Easter. It had an interesting international aspect, thanks to the enterprise of the organisers, the Cinque Ports Flying Club, and the programme had a note of good variety. The aviation community in all its divisions gave ready support, and they and the Club deserved a far greater public interest. Possibly the public attendance was satisfactory to those concerned, but one has seen many meetings with far less attractions receive twice the audience.

Lympne aerodrome is ideally situated for the entrance of machines from the Continent, but that does not detract from the good flights put up by the foreign visitors. Our own machines turned up in large numbers, and included one or two unexpected types of particular interest. There were at least 30 machines on the field on both days, Good Friday and Saturday, and the number was briefly increased at intervals by aircraft calling in before going on to the Continent. Then the air liners circled occasionally and helped to fill up the crowded sky.

A sharp breeze swept the undulating country on both days, but its nip was tempered by the sun.

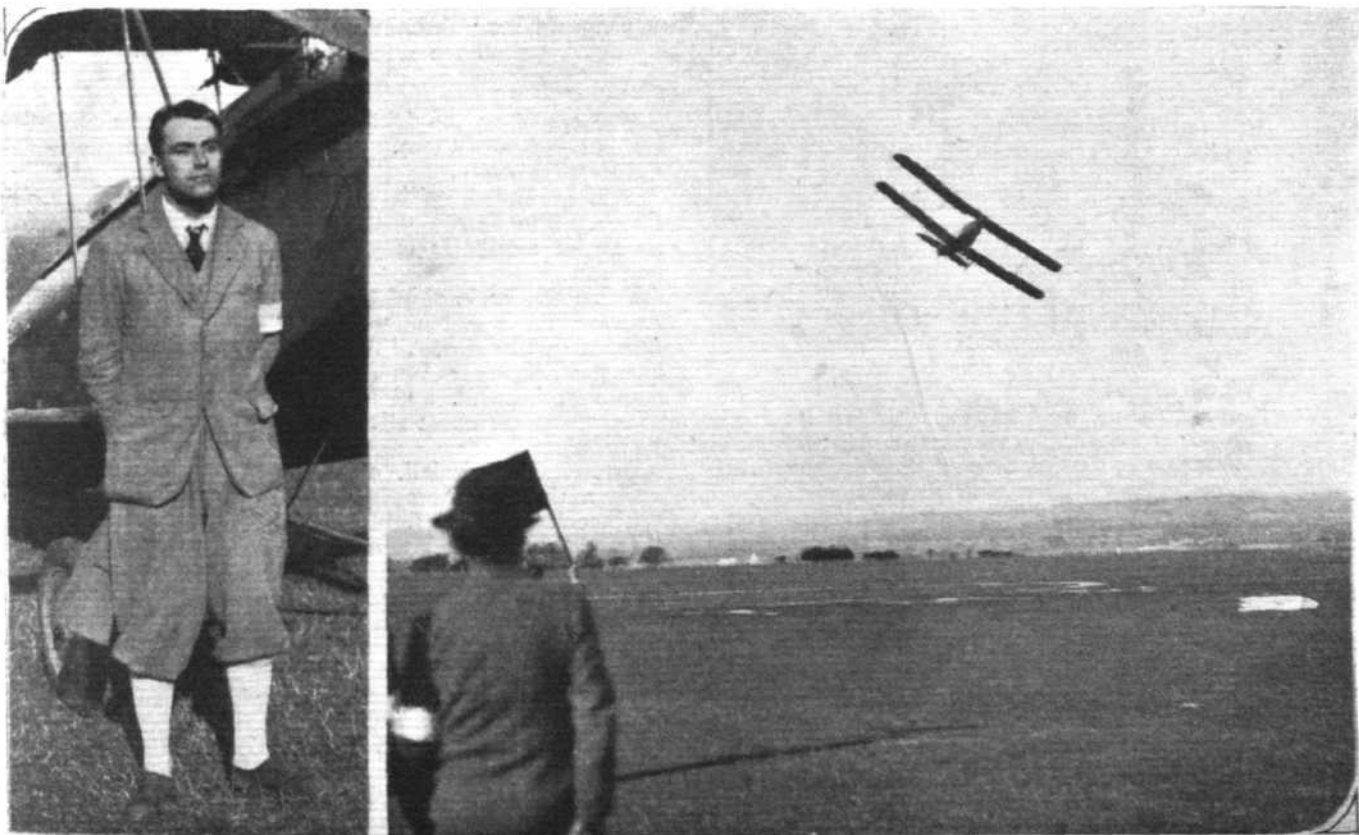
Events on Good Friday

On the first day, Good Friday, there was a miscellany of flying events without races, and although this meant some

lack of the spirit of competition the day was not one bit less appealing. It provided some good stunting on various types of machines, the amusement of aerial bombing, which is one of the best items for a public display, and a surprise item.

The only competitive event on that day was the "Alight at Lympne." Although so many machines arrived, comparatively few entered for this. Zero hour was 12.30 p.m. G.M.T. Competitors who started from places over 100 miles from Lympne were allowed one minute in respect of each additional 50 miles or part of 50 miles. They could add or subtract any of that time, allowance to or from the time of their arrival in order to bring them nearer to the zero hour.

The winner was Capt. R. G. Cazalet, the private owner. On his Westland "Widgeon" (Cirrus) he flew 156 miles from Castle Bromwich and landed at 12 hrs. 31 mins. 5 secs. Thus with his 2 mins. allowance he was able to make his arrival dead on time. He not only won the silver cup, valued at 5 guineas, presented by the Hythe Chamber of Commerce, but a special prize for the best performance of a private owner flying his own machine. Second place in this event went to Mr. G. Merton, another private owner. On his D.H. "Moth" (Cirrus) he flew from Stag Lane aerodrome, Edgware, a distance of 66 miles, and landed at 12 hrs. 30 mins. 25 secs. He received no time allowance, of course. Third



["FLIGHT" Photographs]

Mr. W. L. Runciman, of the Newcastle Aero Club winning the Cinque Ports Handicap at Lympne on his D.H. "Moth" (Cirrus II). He is also seen standing by his machine on the left.

place was won by one of the Rotterdam visitors. He was Mijnheer L. M. Redele on a Pander machine (Walter 60-h.p. engine), and he flew 172 miles from Rotterdam and landed at 12 hrs. 33 mins. 5 secs. His time allowance brought his time to 12 hrs. 31 mins. 5 secs.; only 1 min. 5 secs. above zero hour for 172 miles, which included the Channel crossing—a good performance.

No pilot was allowed to loiter in the surrounding country during this competition. Observers were posted to disqualify those who infringed the rule.

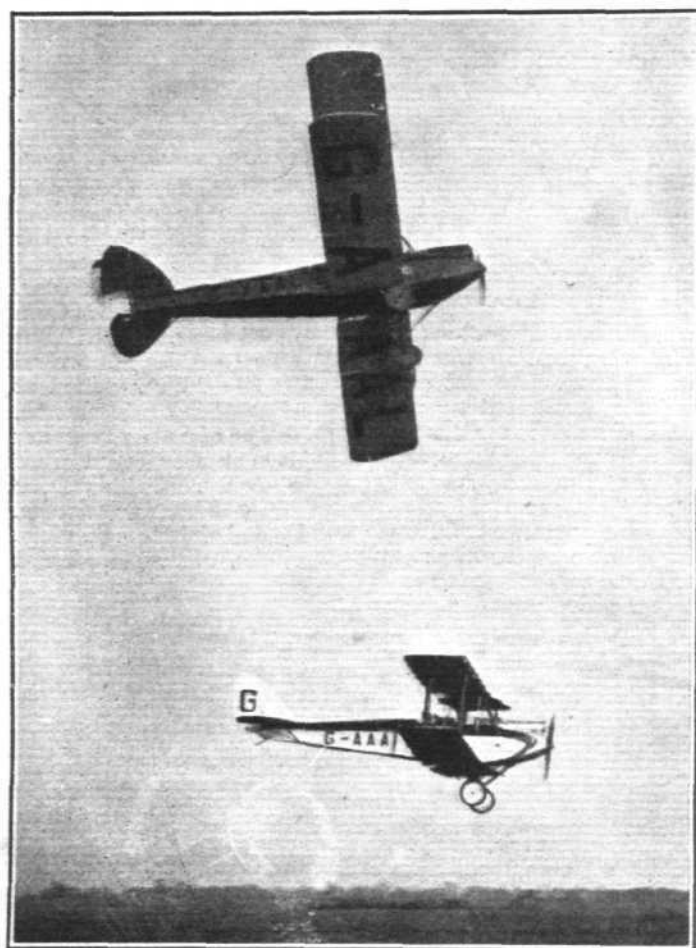
Capt. R. G. Cazalet, it may be remembered, also won the "On To Hadleigh" rally last year in his "Widgeon."

Aerobatics, etc.

The first item on the programme after lunch was a display of aerobatics. This was to have been made by Capt. H. Broad, the De Havilland Aircraft Company's chief test pilot, but he was obliged to be away in Greece on duty. His place was adequately taken by Mr. H. Penrose, one of the Westland Aircraft Company's pilots, who flew a Westland "Widgeon" monoplane fitted with a "Cirrus" engine. His performances on the monoplane are always interesting for their inclusion of stalled descents. He also spun, zoomed, looped, slewed or crazy-flew along the enclosures and ended each run with a

angle of their dives were like those converging attacks at the R.A.F. Display, and more than once they succeeded in getting on the mark almost before the driver was aware of it, but their aim was not quite accurate. Flight-Lieut. Rose is particularly good at this sport, as he showed at meetings last year. It is a good item at a public display, as it can induce excellent flying and amusement.

A surprise item followed then after a period of joy-riding. Flight-Lieut. E. Scholefield, chief test pilot of Vickers, Ltd., flew an Avro "Avian" (Cirrus), and released clusters of small paper parachutes, some of which fluttered down unopened, but most of them opened and sailed towards the enclosures.



["FLIGHT" Photograph]

Miss Winifred Spooner and Flying Officer R. L. R. Atcherley flying a dead heat in the Impromptu Scratch Race for Gipsy-Moths, which Miss Spooner eventually won. Her machine is on top.

low flat turn. Always low and safely close to the enclosures, he manipulated invisible obstacles, as this crazy flying suggests, and must have left his public convinced that the monoplane is so safe that you can play the fool with it.

The events were alternated with joy-riding. There were the Avro machines, belonging to the Brooklands School of Flying, initiating the public, and also a few light aeroplanes.

Frightfulness, or Bombing the Baby, as the programme described it, was the next item. Sqdr.-Ldr. F. O. Soden on his Gipsy-Moth and Flight-Lieut. T. Rose, chief instructor of the Midland Aero Club, also on a Gipsy-Moth, put up an excellent entertainment in their attempts to bomb an elusive Austin Seven with flour bags. This car, of course, can wriggle like an eel, and an alert driver can easily evade a machine once it has started its dive on him, but although no hit was made by the two pilots on this afternoon they improved considerably towards the end. The rapidity and



["FLIGHT" Photograph]

Miss Winifred Spooner, the private owner, who beat Flying Officer Atcherley in the Impromptu Scratch Race with her Gipsy-Moth.

The crowd on the field and in the enclosures competed for the possession of them. This was a light entertainment but quite worth while.

Friday ended with stunting displays and joy-riding. One of the Dutch visitors, Mijnheer Schmit Crans, gave a special aerobatic display on a Pander biplane (Walter engine).

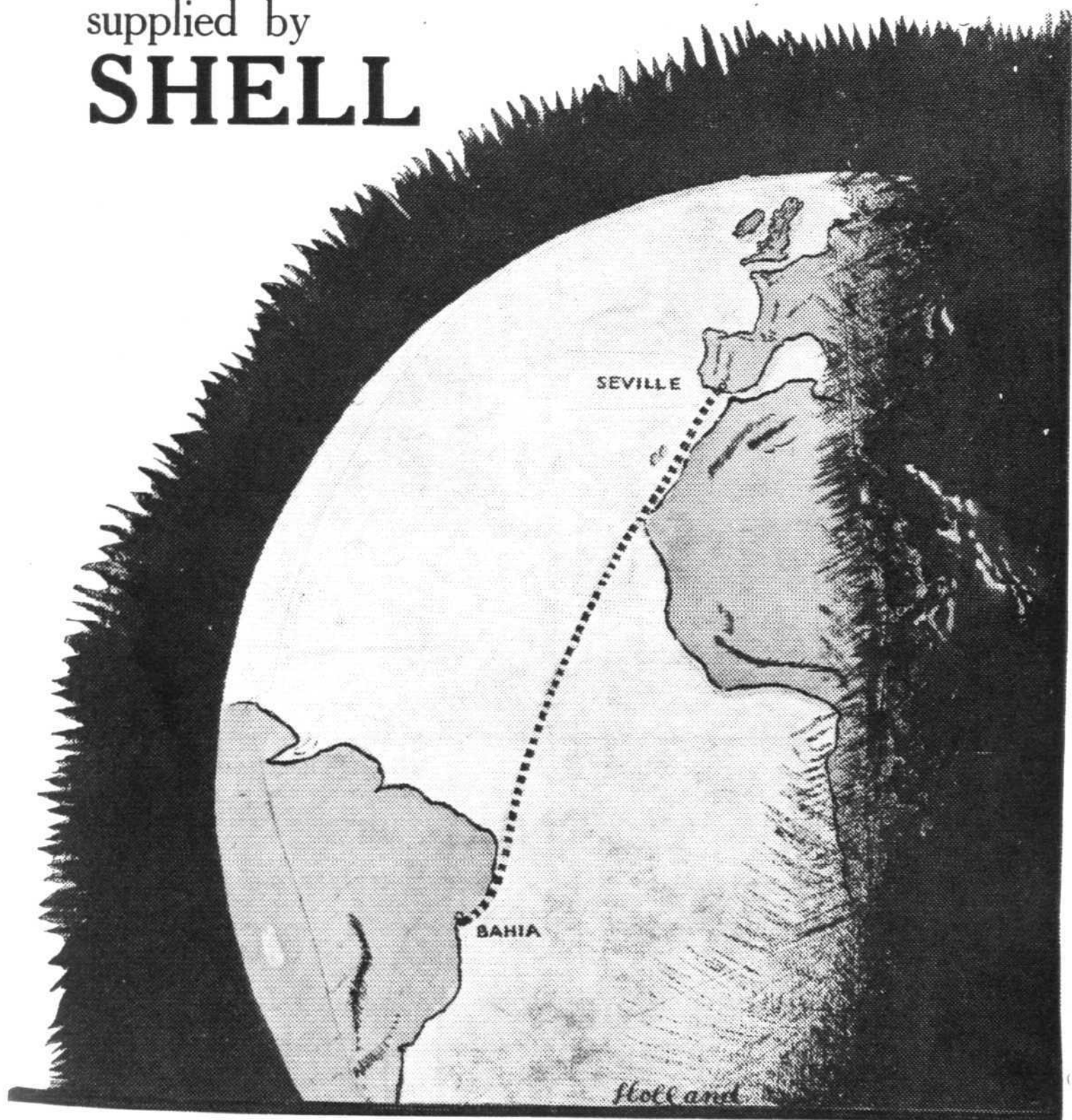
Capt. N. Stack, chief test pilot to the A.D.C. Aircraft Co., Ltd., who was announced in the programme as the world-famous "kunstfleiger," put up his usual thorough aerobatics and crazy flying on the Cirrus-Moth "UF," including zooms, spinning, looping, and slewing across the enclosures. His flick rolls were extra slick and he gets a fine zoom out of a light 'plane.

Mr. G. E. Lowdell, chief instructor to the Suffolk and Eastern Counties Aeroplane Club, stunted with the Blackburn "Lincock" light fighter with the Armstrong-Siddeley "Lynx" engine. He came down from Brough, the Blackburn Aeroplane Company's aerodrome in Yorkshire, to substitute for their test pilot, Capt. A. M. Blake, who has gone to America on business. Prior to his flight to Lympne he had only flown this machine once round the Brough aerodrome. He mentioned to one that it was a beautiful machine to fly. He touched 170 m.p.h. in a dive over Lympne, but otherwise he did not particularly observe his speeds, although he noticed that he flew from Croydon, where he landed for petrol, to Lympne in a surprising short time. The petrol capacity of this fighter is equal to a little more than 2 hrs. flying. Considering his short acquaintance with the "Lincock," Mr. Lowdell handled it well, and flew inverted and rolled with that sure touch that he familiarly applies to the "Bluebird" with the "Genet" engine. One must mention amongst the incidental flying that went on during events, that the flying of the Ryan monoplane with the Wright

Another Atlantic Flight

The Spanish aviators, Captains Jimenez and Iglesias, who flew from Seville to Bahia across the South Atlantic, used Aviation Spirit supplied by Shell.

on AVIATION SPIRIT
supplied by
SHELL



Save time by using the Air Mail.

THE BRITISH RUSSELL "LOBE" PARACHUTE



The "Russell-Lobe" Parachute and Adjustable Harness

Positive Action Packs
Automatic and Free Functioning
No Rubber or Elastic used to ensure opening
No Wire Spring Fittings
Highest quality silk used
Re-packing perfectly simple
Normal Speed of Descent
Absence of Shock on opening
Absence of swing during descent

Manufacturers: E. R. CALTHROP'S AERIAL PATENTS LTD.

All communications to

T. H. ROBERTS, Secretary and Treasurer.

THE BRITISH RUSSELL PARACHUTE CO., LTD.

Registered Offices:

423/423a, EDGWARE ROAD, LONDON, W.2.

Telegraphic & Cable Address:
"SAVEMALIVO, LONDON."

Telephone:
PADDINGTON 6332

THE REID PILOT TESTING APPARATUS

AS ADOPTED IN THE R.A.F.
IS NOW AVAILABLE TO
DOMINION AND FOREIGN
GOVERNMENTS.



The scientific economiser
which has revolutionised
selective and grading tests.

Sole Patentees and Manufacturers

REID & SIGRIST LTD.

Canbury Park Road,
Kingston-on-Thames.

Kingston 6272.

Kindly mention "Flight" when corresponding with advertisers.

A GREAT UNDERTAKING

As makers of the widest and most successful range of British aircraft and engines the Armstrong Siddeley Development Co. Ltd. is in a unique position to offer the results of its extensive experience on matters relating to air transport, training, fighting or private flying machines on land or sea in any part of the world.

Brief details of aircraft and engines are given below. Full particulars and prices may be obtained on application.

AIRCRAFT

AIRCRAFT FOR THE SERVICES

The Armstrong Whitworth All-Steel Atlas 2-seater Fighter or reconnaissance machine, fitted with an Armstrong Siddeley Jaguar engine and either wheels or floats.

The Armstrong Whitworth All-Steel Siskin 3.A. single seater Fighter fitted with an Armstrong Siddeley Jaguar engine.

The All-Steel A.W.A. 14 high performance Fighter fitted with an Armstrong Siddeley Jaguar engine.

AIRCRAFT FOR CIVIL PURPOSES

The Armstrong Whitworth Argosy. A 20-seater Airliner fitted with three Armstrong Siddeley Jaguar engines.

The Avro Commercial Monoplanes. A 4-5 seater or 8-10 seater both fitted with three Armstrong Siddeley engines.

The Avro-Avian. A 2-seater light aeroplane fitted with Cirrus or Armstrong Siddeley Genet engine and either wheels or floats.

AIRCRAFT FOR SCHOOL & CLUB PURPOSES

The Avro Gosport, fitted with Armstrong Siddeley Mongoose engine and either wheels or floats.

The Avro 504.N. fitted with Armstrong Siddeley Lynx engine and either wheels or floats.

The Avro-Avian, fitted with Cirrus or Armstrong Siddeley Genet engine and either wheels or floats.

ENGINES

THE LEOPARD

The Armstrong Siddeley 700-750 h.p. 14-cylinder Leopard for civilian use or for carrying troops or torpedoes.

THE JAGUAR

The Armstrong Siddeley 460-500 h.p. 14-cylinder Geared Jaguar for Civil or Service requirements. Jaguar engines have been in service on the London-Paris Airway for over three years.

The Supercharged 14-cylinder Jaguar is specially designed for maintaining power at high altitude.

Note.—The Armstrong Siddeley Geared Centrifugal Supercharger was the first device of its kind supplied to the British Government and has now been in use for three years.

THE LYNX

The Armstrong Siddeley 230 h.p. 7-cylinder Lynx as used on the Amsterdam-Batavia, Munich-Milan and other airways.

THE MONGOOSE

The Armstrong Siddeley 130-140 h.p. 5-cylinder Mongoose engine for training work on land or sea.

THE GENET

The Armstrong Siddeley 80-88 h.p. 5-cylinder Genet, an engine which is very much lighter than any engine in its class and is, therefore, particularly suitable for powering light aircraft.

SIR W. G. ARMSTRONG WHITWORTH AIRCRAFT LIMITED.
Works & Aerodrome: Whitley, Coventry. London: 10 Old Bond Street, W.1

ARMSTRONG SIDDELEY MOTORS LIMITED.
Head Office & Works: Coventry. London: 10 Old Bond Street, W.1

A. V. ROE & COMPANY LIMITED,
Newton Heath, Manchester
and 166 Piccadilly,
London, W.1.

THE AVRO TEN

A Three Engined Commercial Monoplane

The Avro Ten is a British version of the Fokker F.VII-3m., built under licence from the Fokker Company (N. V. Nederlandsche Vliegtuigenfabriek).

It carries eight passengers and is fitted with three 230 h.p. air-cooled Armstrong Siddeley Lynx engines.

Monoplanes of this type have attained a world-wide reputation for reliability, ease of maintenance and economy of running—qualities that have been proved during a period of several years.

They are used by the principal Dutch, Swiss and Italian Airlines.

Leading Features

ENDURANCE. 4 or 6 hours according to fuel capacity at a cruising speed of 96 m.p.h. with normal full load.

CONTROL. Complete dual control with side-by-side seating for pilots. Tail trimming gear allows large variation in the position of the centre of gravity.

CABIN. Dimensions 10' x 5' x 6' with seats for eight passengers. Broad windows with wide angle views. Large door and direct access by fixed step.

BAGGAGE. Three compartments, total capacity 114 cubic feet.

FUSELAGE. Tubular steel with welded joints braced with steel struts and high tensile steel wire. Covered with fabric.

UNDERCARRIAGE. Special design of simple construction providing wide track. Rubber shock absorbers with special method of adjustment.

ENGINE MOUNTING. Of simple design permitting quick removal.

TANKS. Oil tanks fitted behind engines, fuel tanks fitted in wing providing simple gravity feed. Capacity with two tanks 150 gallons. With three tanks 225 gallons.

WING. Single unit of cantilever construction. Built of wood and covered with plywood to facilitate maintenance.

A. V. ROE & COMPANY, LIMITED
MANCHESTER

THE LYNX ENGINE

A 7 Cylinder Air-Cooled Radial

The 230 h.p. Armstrong Siddeley Lynx engine has attained a world-wide reputation for reliability and ease of maintenance.

It was with Lynx engines that Lieut. Koppen flew his Fokker F.VII-3m. from Amsterdam to Batavia and back, covering 18,000 miles in 18 days. It was with Lynx engines that Fokker machines repeated the Amsterdam-Batavia flight with equal reliability last summer, and it was with Lynx engines that the difficult Munich-Milan Italian Airline and two new Airlines in Switzerland were equipped.

Lynx engines are used in more than twenty different countries, where their independence of climatic conditions have been amply proved. They have been used with equal success in Central Africa and within the Arctic Circle.

Fitted on Avro Aircraft they are the standard training engine of the British Air Force and are widely used for seaplane training. They are also used for two-seater reconnaissance machines, single-seater fighter aircraft, deck-landing aircraft and twin-engined seaplanes.

Many of their principal parts are interchangeable with those of the Armstrong Siddeley 14-cylinder Jaguar and 5-cylinder Mongoose engines. Where different types are in service this effects great economy in the storage of spares and general maintenance.

Leading Features

7 cylinders, 5" bore \times 5.5" stroke.

Compression ratio 5 to 1.

Normal r.p.m. 1,900. Maximum r.p.m. 2,090.

Engine weight 513 lbs.

Direction of rotation, Left Hand Tractor.

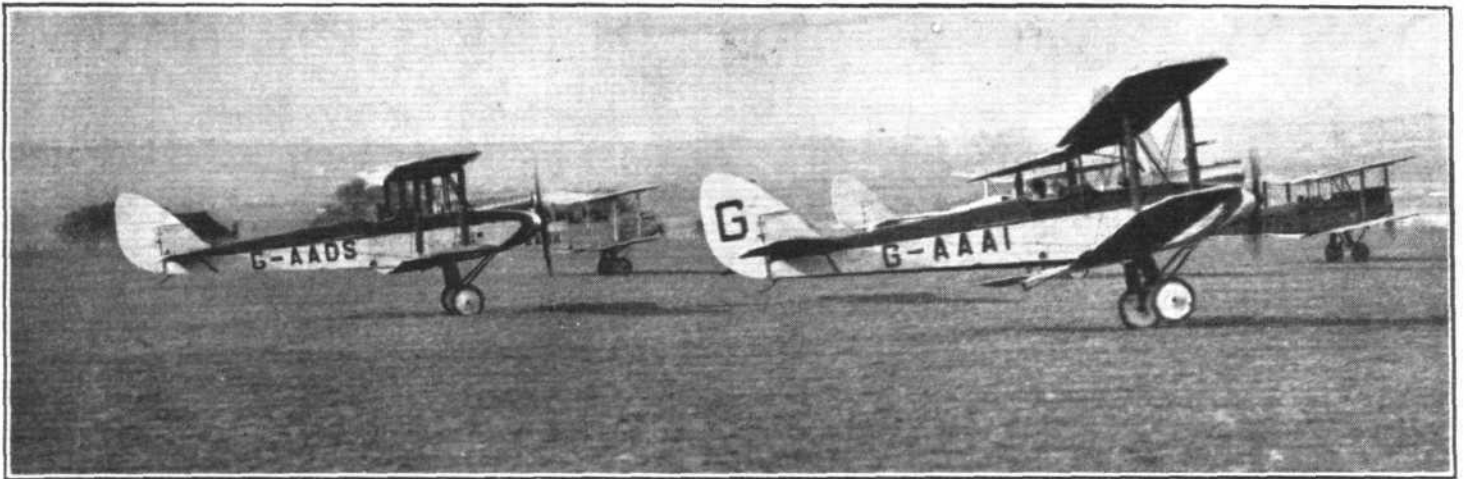
ARMSTRONG SIDDELEY MOTORS LTD.
COVENTRY

A
REMARKABLE
PERFORMANCE

The Armstrong Siddeley Jaguar engines
used by Imperial Airways Limited on
the Argosies flying between London and
Paris have set up a period of 400 hours
between overhauls, the usual
top overhauls having
been discontinued
altogether.

This achievement is claimed as a record of
endurance, unsurpassed by any other engine
in the world.

ARMSTRONG SIDDELEY
MOTORS LIMITED
COVENTRY



["FLIGHT" Photograph]

The start of the Gipsy-Moths in the Impromptu Scratch Race of 27 miles which was won by Miss Winifred Spooner, the private owner pilot, against four competitors.

"Whirlwind" engine attracted much attention. It was flown down by Mr. Leslie Irvin, the parachute manufacturer, to whom it belongs. He carried two or three passengers with him in the roomy cabin which is totally enclosed. The presence of this monoplane reminded everyone of the Lindbergh flight in a Ryan monoplane.

A flight of particular merit on Friday was that of Herr Kirsch, the German pilot, who flew 600 miles from Stuttgart, Germany, to Lympe in a Klemm monoplane fitted with the Salmson 40 h.p. engine. He left about 10.30 a.m., and reached Lympe at 3 p.m. Altogether three Pander biplanes with Walter 60-h.p. engines arrived from Rotterdam. A D.H.53 belonging to the R.A.E. of Farnborough arrived with its propeller being kept on with one bolt. The others had been shed on the way.

Saturday's Races and Aerobatics, etc.

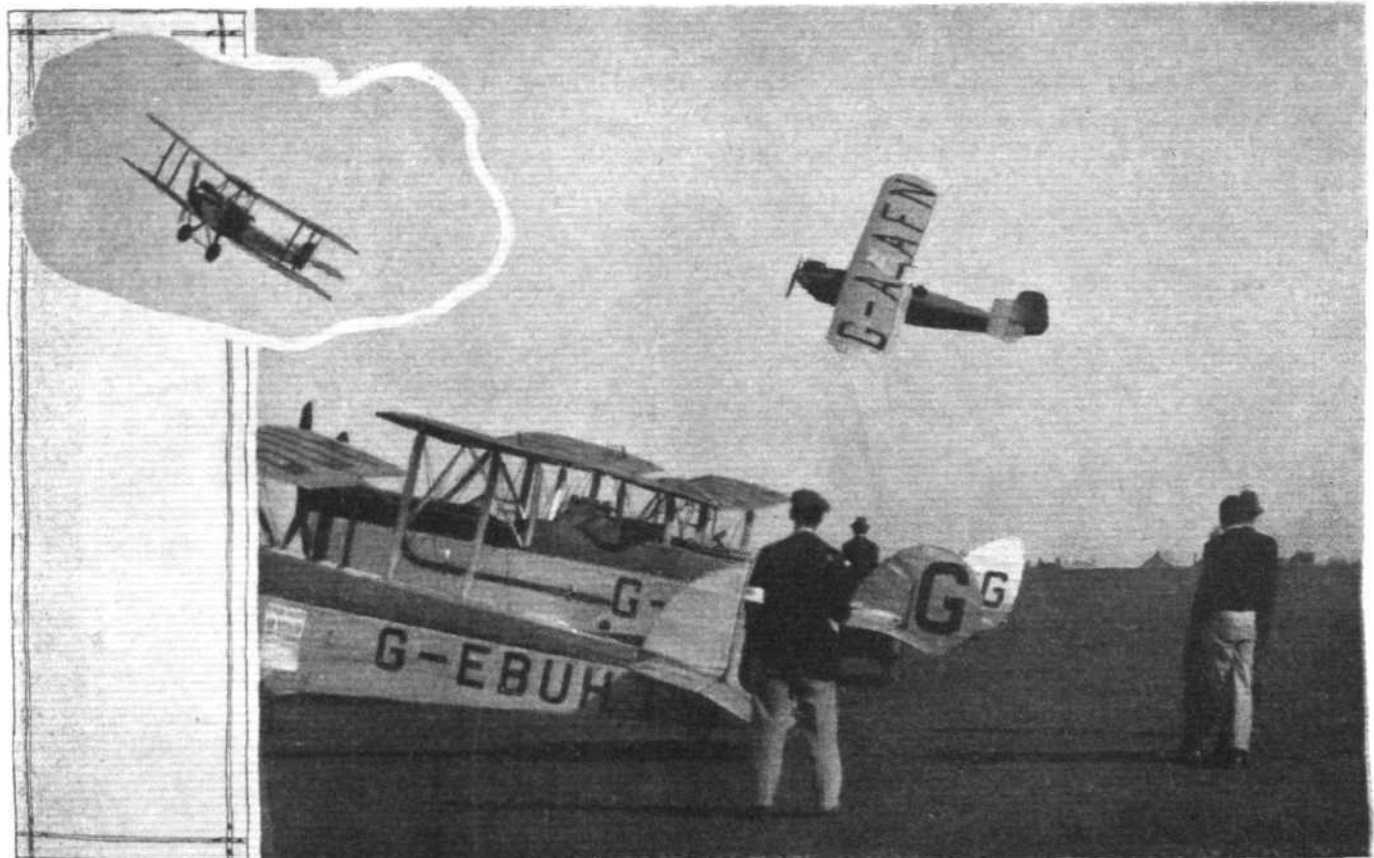
The second day of the meeting included two races. First there were further displays of aerobatics by Capt. N. Stack, Mr. H. Penrose and Mr. Lowdell. Flying Officer R. L. R.

Atcherley also obliged with his inimitable inverted flying. Mr. Penrose flew the Widgeon monoplane again as a substitute for Capt. Broad on a Gipsy-Moth. Capt. N. Stack was particularly clever with crazy flying on the Cirrus-Moth, and performed a fine "falling leaf," whilst Mr. Lowdell got into stride completely with the Blackburn "Lincock" (Lynx).

Flying Officer Atcherley took up the Genet-Moth "OU" and performed his repeated rolls and remained inverted for longer distances than ever. He also turns neatly whilst inverted. Capt. S. L. F. St. Barbe, the skywriting pilot, flew his S.E.5 (Hispano-Suiza) to a considerable altitude and wrote the word *Shell* very evenly and clearly against the infinity of the blue sky.

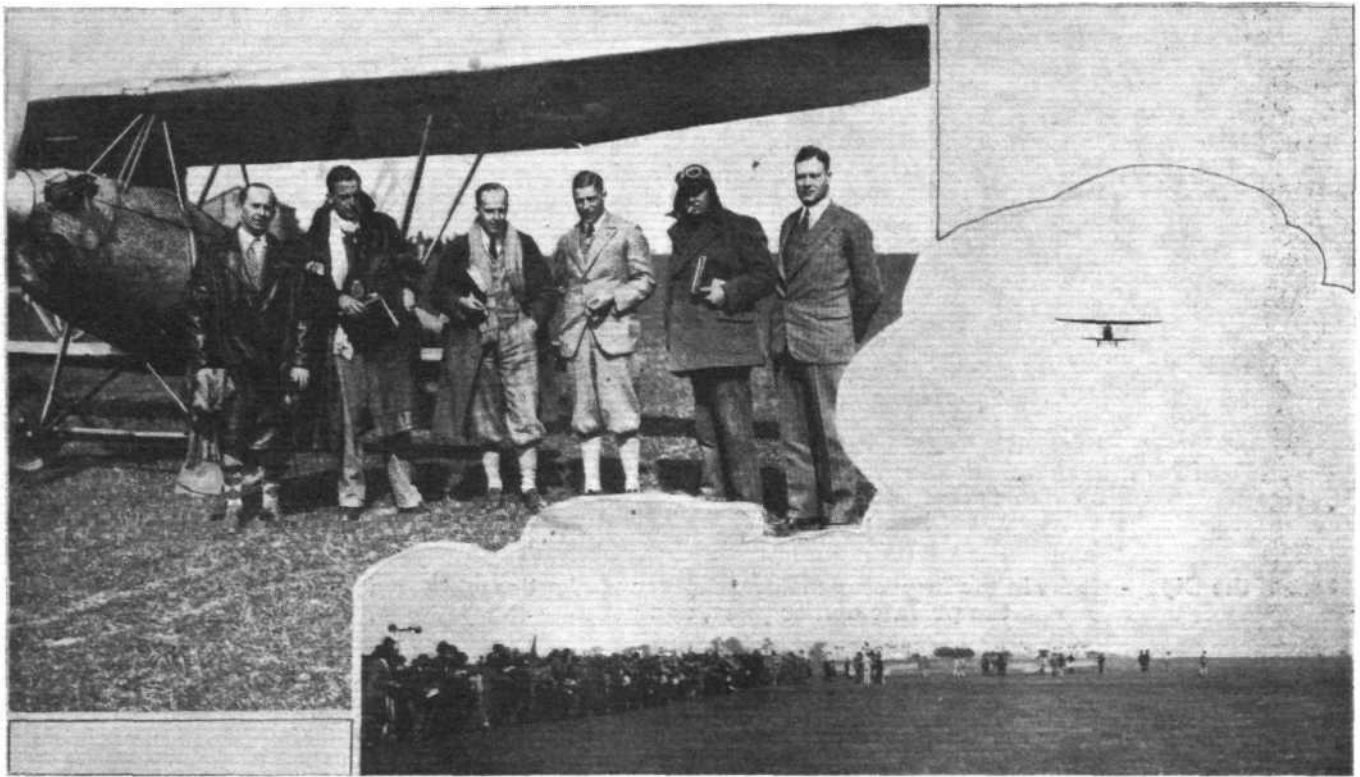
Herr Kirsch, the German pilot, flew his Klemm (Salmson) monoplane and showed us the slow landing of which this machine is capable.

The races brought a new zest to the meeting and produced excellent flying. The first race was the Cinque Ports Handicap. It was limited to private owners flying their own machines, and the course was four laps of the Lympe circuit,



["FLIGHT" Photographs]

AEROBATICS AT LYMPNE AIR MEETING: Inset is Capt. N. Stack performing the "falling leaf" in the D.H. "Moth" (Cirrus III) during his display of aerobatics, and in the other picture is Mr. H. Penrose putting the Westland "Widgeon" (Cirrus) through its paces.



[“ FLIGHT ” Photographs]

DUTCH TEAM AT LYMPNE : (Left to right) Mijneer G. Gleichman, Mijneer L. M. Redele, Mijneer H. Pander, Mijneer Schmit Crans, Mijneer Vlaming and Mijneer Van Troostenburg. On the right is the arrival of the first Pander biplane from Rotterdam

which is just over 9 miles to the lap, making a total distance of 37 miles.

This is a good course because the machines are not out of sight much of the time. They can be seen with a sharp naked eye when flying the base of the triangle along the hills. Mr. Jackaman's glittering Coupé Gipsy-Moth was easily observed along this base.

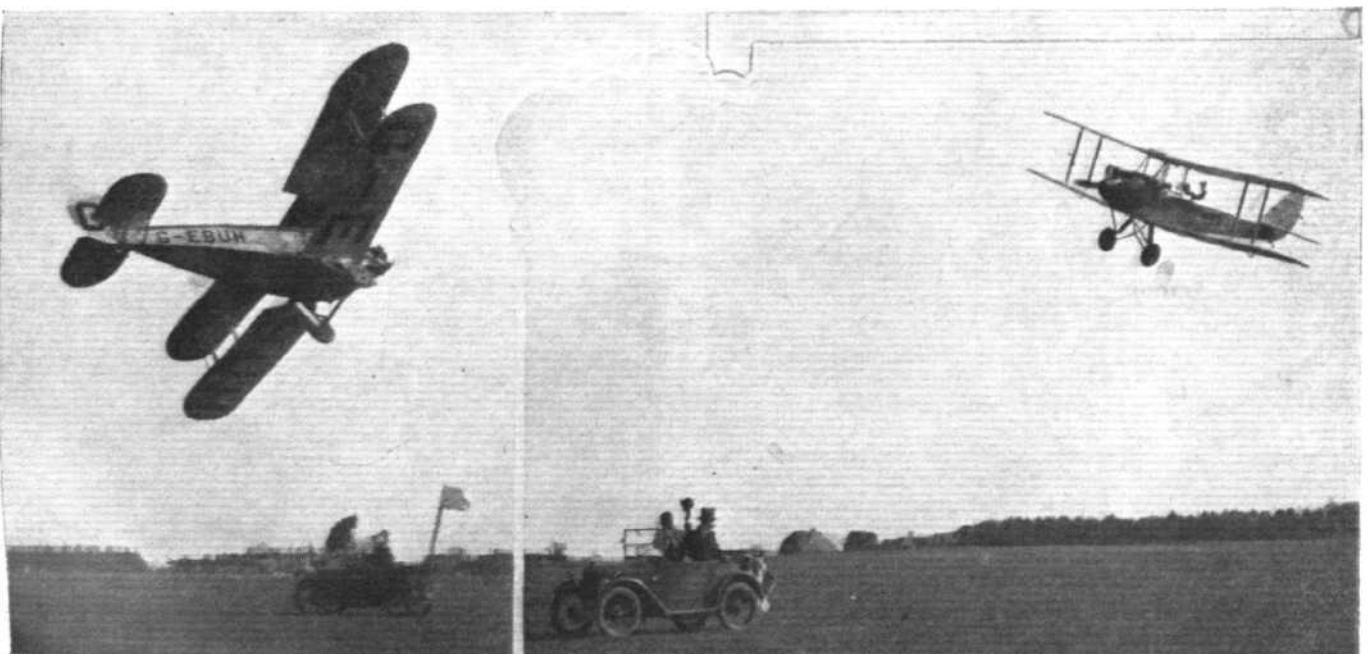
This course was flown anti-clockwise and there were six entrants. They were Lady Bailey on her Gipsy-Moth G-AAEE; Dr. Whitehead Reid on his Westland "Widgeon" (Genet) G-EBJT; Capt. G. F. Boyle on his Cirrus-Moth G-AABH; Mr. A. M. Jackaman on his Coupé Gipsy-Moth G-AADX; Mr. W. L. Runciman on his Cirrus-Moth G-EBWT; and Mr. H. R. Law on his Cirrus-Moth G-EBYJ.

The Race

These competitors were divided into two classes. In the first class were the machines fitted with Armstrong-Siddeley

"Genet" or Cirrus II engines. In the second class were the machines fitted with the Cirrus III or D.H. Gipsy engines. In this latter class were Lady Bailey and Mr. Jackaman only, and they gave the others a start of 2 mins. 18 secs. Mr. Runciman was leading on the first lap with his Cirrus-Moth, but in the second lap he had to give way to Mr. Law on the Cirrus-Moth, whilst Dr. Whitehead Reid on his Genet-Widgeon was a strong second, with Capt. Boyle third. In the third lap, Mr. Runciman was leading well, but Lady Bailey on the Gipsy-Moth had crept up to second place and approached the turning point scraping the hedges. Lady Bailey was quickly followed by Dr. Whitehead Reid, Mr. Law, Mr. Jackaman and Capt. Boyle. Her cornering was equal to any of her competitors and she was also saving distance with exceptional low flying. Capt. Boyle was well behind on the third lap.

In the fourth and last lap Mr. Runciman on his D.H. "Moth" (Cirrus II) won easily. Lady Bailey, who had, of



[“ FLIGHT ” Photographs]

BOMBING AN AUSTIN SEVEN : (Left) Mr. G. E. Lowdell on the Blackburn "Bluebird" (Genet), and Sqdr.-Ldr. F. O. Soden on the Gipsy-Moth bombing the Austin Seven with flour bags at the Lympne meeting. The former registered two direct hits.



The Klemm Team at Lympe: (Left to Right) Maj. Stephens, Herr F. Kirsch, Mr. H. Barlow and Herr L. Hagemieir. Herr F. Kirsch flew 600 miles in the Klemm (Salmson) monoplane on Good Friday to attend the meeting. He started from Stuttgart, Germany

[" FLIGHT " Photograph

course, given him a start of 2 mins. 18 secs., was a good second on her Gipsy-Moth, whilst Mr. Jackaman had also overcome his handicap sufficiently to creep into third place on his Coupé. The Westland "Widgeon" (Genet) got into fourth place, followed at a distance by Mr. Law and then Capt. Boyle.

The winner's time was 23 mins. 42 secs., and his speed 80.4 m.p.h. Lady Bailey's speed was 93 m.p.h. Mr. Runciman is a member of the Newcastle Aero Club. The prizes were: 1st, a silver cup, value 5 guineas; 2nd, a prize value 3 guineas; and 3rd, a prize value 2 guineas. The winner in the Class I also received a prize value 2 guineas, which therefore presumably went to Mr. Runciman also.

Manufacturers' Race Scratched

It had been arranged next to hold a Manufacturers' Scratch Race. A Blackburn "Bluebird" (Genet), two Gipsy-Moths and a Cirrus-Spartan had entered, but some of the competitors were unable to get there for the event, so it was cancelled. An Impromptu Scratch Race was immediately arranged for Gipsy-Moths. There were five competitors, namely, Miss Winifred Spooner, F./O. J. Armour, Mr. A. C. M.

Jackaman, Capt. F. E. Guest, M.P. (piloted by Mr. Fielden), and Flying Officer R. L. R. Atcherley. Capt. Guest's machine was the only one with a passenger.

When the machines started off in line abreast formation, Flying Officer Atcherley swung across the line and above it. On the first lap all of them were flying low and they came in fairly close. Mr. Jackaman, on his Coupé, had the lead of Miss Spooner and Flying Officer Atcherley. F./O. Armour was fourth and Capt. Guest last. On the second lap Miss Spooner and Flying Officer Atcherley were fighting a duel, with Miss Spooner slightly ahead at the turn which she took with all the verve and surety of her great competitor. There was a gap, and then came the Coupé of Mr. Jackaman's, who made an uncertain turn and lost ground thereby. F./O. Armour was again fourth and Capt. Guest (with two up) well behind.

There were only three laps and the final was awaited with considerable excitement. One could detect the machines crawling against the dark green background of the hills which formed the triangle of the course. The duellists could be seen still fighting closely, with the white Coupé catching the sun and flashing. They came in very low, almost disappearing below the level of the ground in the

Competitors at Lympe: (Left to Right) F./O. J. G. D. Armour, Sqdr. - Ldr. F. O. Soden; and Flying Officer R. L. R. Atcherley, who did inverted flying in a Genet-Moth

[" FLIGHT " Photograph





["FLIGHT" Photograph]

Sqdr.-Ldr. A. Kubita in his Avia monoplane, which he flew to Lympne for the air meeting. He is the Czechoslovakian Air Attaché in England.

undulations, with Miss Spooner and Flying Officer Atcherley still neck and neck for first position.

When these two passed the line there could be no other decision than a dead heat. Mr. Jackaman was third and some distance behind, then came F./O. Armour and Capt. Guest. The speed of the two Gipsy-Moths which tied was 90.9 m.p.h. The course was 27 miles long.

Later in the afternoon Miss Spooner and Flying Officer Atcherley agreed to fly a course of one lap to decide for the



["FLIGHT" Photograph]

AIR VISITORS TO LYMPNE: Mrs. Dawson Paul and Flying Officer A. V. Harvey at the Easter meeting with the Boulton and Paul P.9 biplane.

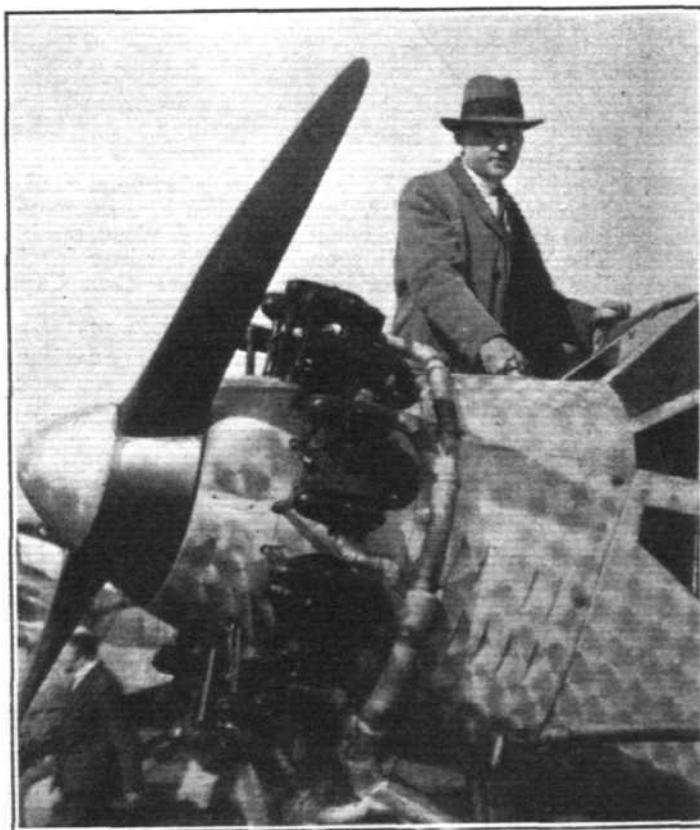
first place. Miss Spooner won fairly well this time. Her competitor failed to turn one corner properly and lost ground in correcting his error. But he was behind Miss Spooner before this occurred, so it is likely that she would still have scraped home first. Her time for the course was 5 mins. 40 secs., and her speed 90 m.p.h. The prize was Sir Charles Wakefield's Silver Cup, value 20 guineas.

Bombing an Austin Seven

After this race there was a repetition of the bombing event. Mr. G. E. Lowdell on a Blackburn "Bluebird" (Genet) and Flight-Lieut. T. Rose on a Gipsy-Moth put up a fierce attack on the Austin Seven and completely routed it. The former scored two direct hits, one catching the driver in the chest, whilst nearly every shot of both competitors was very close. The air meeting ended with joy-riding.

Amongst the air visitors and their machines were:—

Private owners: Lady Bailey on Gipsy-Moth; Miss Winifred Spooner on Gipsy-Moth; Capt. R. G. Cazalet on Westland "Widgeon" (Cirrus); Mr. Nigel Norman on Cirrus-Moth; Mr. G. A. R. Malcolm on Gipsy-Moth; Mr. C. S. Napier on Westland "Widgeon III" (Cirrus); Mr. T. Rose Richards on Cirrus-Moth; Capt. G. F. Boyle on Cirrus-Moth; Mr. A. C. M. Jackaman on Coupé Gipsy-Moth; Mr. H. R. Law on Cirrus.



["FLIGHT" Photograph]

Mr. Leslie Irvin, the parachute inventor and manufacturer, with his Ryan monoplane which he flew at Lympne. It has the Wright "Whirlwind" engine.

Moth; Mr. G. A. R. Malcolm and Mr. Ballantyne on Gipsy-Moths; Flying Officer A. Wheeler on S.E.5a; Mr. W. L. Runciman on Cirrus-Moth; Mr. G. Merton on Cirrus-Moth; Mr. G. Linnell on Cirrus-Moth; Mr. O. J. Tapper on Cirrus-Moth; Dr. Whitehead Reid on Westland "Widgeon" (Genet); Mr. G. E. Story on Cirrus-Moth; Mr. Leslie Irvin on his Ryan monoplane (Wright "Whirlwind"); Flying Officer A. V. Harvey on Boulton and Paul P.9 (R.A.F. engine); Mr. Courtney Prentice on Blackburn "Bluebird" (Genet); Capt. Stewart Burt on Gipsy-Moth; Sqdr.-Ldr. A. Kubita on an Avia (Walter engine); Mijnheer L. Nieuwenhuizen on Cirrus-Moth; Flying Officer R. L. R. Atcherley on Genet-Moth. Miss Leathart of the Newcastle Aero Club was also there, and Lieut.-Col. L. A. Strange came on a Cirrus-Spartan with Mr. O. E. Simmonds. Amongst the test pilots and club instructors were Flight-Lieut. E. R. Scholefield on a Cirrus-Avian, Flight-Lieut. T. Rose on a S.E.Va (Airdisco) owned by Mr. W. Handley; Mr. G. E. Lowdell on the Blackburn "Lincock," Capt. N. Stack on Cirrus-Moth, Mr. H. Penrose on the Westland "Widgeon" (Cirrus), and Capt. S. F. St. Barbe on a S.E.V sky-writing machine. The Airways "Avian" (Genet) also arrived. The Dutch team who flew from Rotterdam comprised Mijnheer H. Pander, Mijnheer L. Rede, Mijnheer Vlaming and Mijnheer Schmit Crans, Mijnheer Van Troostenburg and Mijnheer G. Gleichman.



**BE SAFE
BE SURE
BE**

Smith Equipped



THE SMITH OIL AND FUEL GAUGE.
The most compact oil gauge on the market. Supplied in various ranges of calibration up to 500 lbs.
Type No. AA.407.



THE SMITH AVIATION WATCH.
A reliable 8-day watch in a special instrument-board case. Compensated lever movement entirely unaffected by temperature variations.
Type No. AA.684.

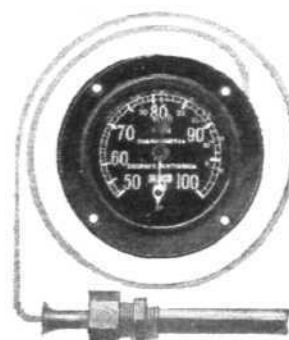


THE SMITH "TIME OF FLIGHT" CLOCK.
A reliable clock working on a unique principle. The subsidiary dial records the time of Flight in hours and minutes, and can be re-set to Zero at any time.
Type No. AA.681.



THE NEW SMITH ALTIMETER.
Of reduced dimensions and weight, and specially designed with the object of reducing weight and size as compared with the standard Altimeter, and at the same time to maintain the degree of accuracy required by the British A.I.D.
Bezel reset. Calibrations arranged in feet or metres to suit all requirements.

Overall dia., 3 1/4 in. Dial dia., 3 in.
Weight, only 11 1/4 ozs. Type AV. 572.



THE SMITH RADIATOR THERMOMETER.

A neat and compact instrument, yet of particularly robust construction. Calibrated from 50 to 100 degrees centigrade. Boiling points at the various altitudes are indicated on the dial.
Type No. AV.437.



THE SMITH REVOLUTION INDICATOR.

Operated on the well-proven scientific principle. This redesigned Instrument embodies many improvements. The Bold and correctly balanced Pointer and clearly defined figures ensure perfectly steady reading at all speeds. Every Instrument individually calibrated and to the requirements of the British A.I.D. Calibrations and gear ratios to suit all types of engines.

Overall dia., 5 1/4 in. Dial dia., 4 in.
Weight, only 34 ozs. Type AV. 503.

**CONTRACTORS TO
H.M. AIR MINISTRY,
FOREIGN
GOVERNMENTS,
AND AIRCRAFT
CONSTRUCTORS
THROUGHOUT
THE WORLD.**



THE SMITH AIRSPEED INDICATOR.

Manufactured to the limits of accuracy required by the British A.I.D. Calibrations to upwards of 400 m.p.h. (or equivalent in knots or kilos) if required.
Overall dia., 5 1/4 in. Dial dia., 3 3/8 in.
Weight, only 21 ozs. Type AA. 541.



S. SMITH & SONS (M.A.) LTD.,

AVIATION INSTRUMENT SPECIALISTS,

SOLE EXPORT DISTRIBUTORS FOR K.L.G. SPARKING PLUGS.

(Manufactured by K.L.G. Sparking Plugs Ltd., Putney, S.W.)

CRICKLEWOOD WORKS, LONDON, N.W.2.



Save time by using the Air Mail.

ROHRBACH



LOUIS

METALL

FLUGZEUGBAU

BERLIN - N 65 - KIAUTSCHOU STRASSE

Kindly mention "Flight" when corresponding with advertiser.

The Club Dinner

In the evening the Cinque Ports Flying Club held an informal dinner at which most of the air visitors were present. The chairman was Mr. Dallas Brett, sen., who was supported by Capt. F. E. Guest, M.P., and Miss Spooner. The chairman declared that there would be no speeches. He proposed the toast of the visitors and asked Mr. C. G. Grey to support it. He

also presented the prizes to the successful competitors, who were Miss Winifred Spooner, Lady Bailey, Mr. W. L. Runciman and Capt. R. G. Cazalet. To the Dutch visitors he also presented small mementoes of the occasion on behalf of the club, and expressed his appreciation of their visit, and also commented on the fine flight of 600 miles of Herr Kirsch in the Klemm monoplane.

CAMBRIDGE AIR MEETING SPOILT BY WEATHER

WHEREAS the Cinque Ports Flying Club was favoured with perfect weather at Easter for the flying meeting, the Suffolk and Eastern Counties Aeroplane Club had its meeting spoilt at Conington, near Cambridge, on Easter Monday by bad weather. They were to have opened the Cambridge Aero Club, which has grown out of their small branch started in the Cambridge district a long time ago. A wind which touched nearly 50 m.p.h. definitely cut out the flying programme that had been arranged. In consequence only four visiting machines arrived to augment the Club's own Blackburn "Bluebird" (Genet) machines.

The winner of the "On to Cambridge" rally was Mr. G. F. E. Story, of the Cinque Ports Flying Club, who owns a Cirrus-Moth. He was accompanied by Mr. M. Braddell, and flew up from Lympe. This flight was not without incident. It nearly had to be abandoned near London owing to the bad weather; but they managed to push through at about 5,000 ft. They lost their way and were finally guided to the aerodrome by another machine. This flight, one believes, was only the second cross-country flight of Mr. Story's, and his success in the rally not unnaturally came as a pleasant surprise.

Mr. H. Penrose, of the Westland Aircraft Co., Ltd., won second place in the rally. He was at the Lympe meeting, from where he first flew to Martlesham. Starting from there

in the "Widgeon" (Cirrus) monoplane for Conington, with Mrs. Penrose, as passenger, he came down at Hadleigh, Suffolk, and then pushed on again.

The third arrival was Mr. G. Linnell, the private owner of a Cirrus-Moth, and he also came on from Hadleigh, with Mr. B. Carrick as his passenger. Mr. Linnell attended the Lympe meeting as well.

During a temporary lull in the gale Mr. G. E. Lowdell, the Suffolk Club's chief instructor, gave one of his usual displays on the Blackburn "Bluebird" (Genet), but no further flying was possible after lunch as the weather steadily grew worse and developed into a heavy rainstorm about 3 p.m.

Lady Bailey, President of the Suffolk Club, who arrived by road, having also attended the Lympe meeting, gave a short talk on her recent flight round Africa, which was broadcast by loud-speakers.

The programme that had been arranged would have included a grand parade and fly-past led by Lady Bailey. Also three competitive events calculated to amuse the public and pilots alike; namely, an aerial golf contest, a landing competition, and a take-off competition. First, second and third prizes would have been awarded the winners of these events.

Mr. Leslie Irving had promised to give a demonstration of a parachute descent with an Irvin parachute. Starting April 1, the Club arranged to give flying instruction every day.

LIGHT PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware, Sec., H. E. Perrin, 3, Clifford Street, London, W.1.

Bristol and Wessex Aeroplane Club, Filton, Gloucester. Secretary, Major G. S. Cooper, The Aerodrome, Patchway, Glos.

Cinque Ports Flying Club, Lympe, Hythe. Hon. Secretary, R. Dallas Brett, 114, High Street, Hythe, Kent.

Hampshire Aero Club, Hamble, Southampton. Secretary, H. J. Harrington, Hamble, Southampton.

Lancashire Aero Club, Woodford, Lancs. Secretary, Mr. Atherton, Avro Aerodrome, Woodford.

Liverpool and District Aero Club, Hooton, Cheshire. Hon. Secretary, Capt. Ellis, Hooton Aerodrome.

Midland Aero Club, Castle Bromwich, Birmingham. Secretary, Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

Newcastle-on-Tyne Aero Club, Cramlington, Northumberland. Secretary, J. T. Doids, Cramlington Aerodrome, Northumberland.

Norfolk and Norwich Aero Club, Mousehold, Norwich. Secretary, G. McEwen, The Aerodrome, Mousehold, Norwich.

Nottingham Aero Club, Hucknall, Nottingham. Hon. Secretary, Cecil R. Sands, A.C.A., 30, Park Row, Nottingham.

The Scottish Flying Club, 101, St. Vincent Street, Glasgow. Secretary, George Baldwin, Moorpark Aerodrome, Rentfrew.

Southern Aero Club, Shoreham, Sussex. Secretary, Miss N. B. Birkett, Shoreham Aerodrome, Sussex.

Suffolk Aeroplane Club, Ipswich. Secretary, Maj. P. L. Holmes, The Aerodrome, Hadleigh, Suffolk.

Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Secretary, Lieut.-Col. Walker, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

(MAR. 25-31).—Total flying time, 68 hrs. 40 mins. Dual instruction—34 members received dual instruction during the week, the time being 30 hrs. 45 mins. Solo flying—36 members flew solo during the week, the time being 37 hrs. 55 mins.

During the week, Captain the Master of Gray and M. S. Shelly passed the tests for Aviators' Certificates, and H. J. Bacon made his first solo flight.

Club-House Fund.—The following donations have been made towards the Club-house Fund.—N. H. Jones, £2; Will Hay, £2; Major K. M. Beaumont, £2; T. Elder-Hearn, £2 2s.

Pilot Instructor.—Flt.-Lieut. H. G. Travers has been appointed Club Pilot Instructor to the London Aeroplane Club. Flt.-Lieut. Travers is at present engaged in a similar capacity with the Cinque Ports Flying Club at Lympe, and will commence his duties with the London Aeroplane Club at the end of April. In the meantime, Messrs. Norman & Muntz are kindly allowing the club the use of the services of Capt. V. H. Baker.

Total flying time for March.—Dual instruction (263), 103 hrs. 20 mins. Solo flying, (293), 114 hrs. 50 mins. Test flying (94), 15 hrs. 40 mins. Passenger flights (47), 13 hrs. 50 mins. Totals.—(697), 247 hrs. 40 mins.

CINQUE PORTS FLYING CLUB

(MAR. 17-23).—Total flying time for week, 29 hrs. 25 mins. Dual instruction: Mr. Clemetson, 30 mins.; Mr. Woods, 1 hr.; Mr. Maurice Braddell, 2 hrs. 15 mins.; Mr. Kabali, 15 mins.; total, 4 members, 4 hrs. Soloists under instruction: Mr. Kabali, 2 hrs. 50 mins.; Mr. Maurice Braddell, 3 hrs. 10 mins.; Mr. Sargent, 20 mins.; total, 3 members, 6 hrs. 20 mins. "A" Pilots: Mr. Douglas, 30 mins.; Mr. Crammond, 30 mins.; Mr. Somerset, 1 hr. 5 min.; Mr. Story, 15 mins.; Mr. Nicholson, 14 hrs. 15 mins.; Mr. Maurice Braddell, 55 mins.; total, 6 members, 17 hrs. 30 mins. Joyrides: 4 hrs. 40 mins. Tests: 10 hrs. 50 mins.

Mr. Maurice Braddell, the film actor, who has been absent from the club for about six months, resumed tuition on Sunday, the 17th, and took his "A" licence in good style on Wednesday, March 20.

A new member, Mr. Kabali, who is a British Indian subject, also took his "A" licence on Wednesday of this week. The club congratulates both members on good performances.

In spite of the fact that low clouds stopped flying on Thursday, the week's total of 29 hrs. 25 mins. is easily the best this year, and represents over 2,000 miles flown by the two machines in five days, the club being closed as

usual on Tuesday. This total was largely contributed to by Mr. Nicholson, who is trying for his "B" licence, and who put in no less than 14 hrs. 15 mins. flying in the week. He attempted his cross-country tests on Saturday, his projected route being Croydon, Hamble and Lympe. However, his first stop was Worthydown, Hampshire, where he enquired as to the whereabouts of Croydon. Rumour has it that Mr. Nicholson has friends in Winchester, but he is very reticent on the subject.

Mr. Story, of Hythe, has purchased a Mark II, Cirrus Moth X from Air Taxis Ltd. The machine is No. GEBTZ, and is fitted with extra petrol tanks for long-distance flights.

HAMPSHIRE AEROPLANE CLUB

(MAR. 23-29).—Pilot instructors: Flt.-Lieut. F. A. Swoffer, M.B.E., and Mr. W. H. Dudley. Ground engineers: Mr. E. Lenny and Mr. J. Elliott. Aircraft: D.H. 60 Moth G-EBOI and Avro Avian G-EBVI. Flying time for the week, 29 hrs. 30 mins. Pupils under instruction (19), 14 hrs. Soloists, (7), 6 hrs. 10 mins. "A" pilots (11), 6 hrs. 45 mins. Passengers (5), 55 mins. Instructors, solo and tests (8), 1 hr. 40 mins.

Comdr. Hynes and Mr. Shand have joined the club this week, and we are expecting an influx of new pupils if the present fine weather continues.

The directors have decided, after consultation with the Committee, to place an order with Simmonds Aircraft, Ltd., for one of their machines, and it is anticipated that delivery will be taken shortly after Easter. We shall then be in the happy position of owning four aircraft, two Moths, an Avian and a Spartan.

LANCASHIRE AERO CLUB

(MAR. 17-23).—Flying time, 28 hrs. 10 mins. Instruction (10), 6 hrs. Solo flights (21), 16 hrs. 10 mins. Passenger flights (18), 4 hrs. 15 mins. Tests (16), 1 hr. 45 mins. Instruction (with Mr. Hall): Paddock, Williamson, R. G. Davies, J. H. Ashworth, J. G. Nelson, Goss, Kay, W. Ashworth, Stern. (With Mr. Cantrell), Williamson. Soloists (under instruction): Sellers, Garner, Williamson, Goss. Pilots: Cohen, R. F. Hall, Meads, R. G. Davies, Mills, Harrison, Lacayo, Ruddy, Crosthwaite, Weale, Gattrill, Williams, D. Nelson, Whitehouse, Kay, Goodfellow, Twemlow. Passengers (with Mr. R. F. Hall): Miss Thompson, Miss Oppenheim, Glover, Coatman; (with Mr. Lacayo): Benson, Miss Hincks, Crinean; (with Mr. Mills): Cliffe, Emery, Jennison, Wild; (with Mr. Meads): Moore, Crinean; (with Mr. Goodfellow): Forshaw; (with Mr. Gort): Kelly, Melville; (with Mr. Twemlow): Musker, Garside.

LIVERPOOL & DISTRICT AERO CLUB

(MAR. 24-30).—Machines in commission: Avro Avians W.K., X.X., Z.M. Instructor: Flight-Lieut. J. B. Allen. Ground Engineer: Mr. Howard Pixton. Total flying time, 41 hrs. Nineteen pupils totalled 20 hrs. 25 mins. dual; six pupils totalled 7 hrs. 20 mins. solo; ten "A" pilots totalled 5 hrs. 15 mins. solo; ten passenger flights totalled 7 hrs. 10 mins.; ten test flights totalled 50 mins.

Mr. Pate, who has had previous experience as a service pilot, did his first solo on a Club machine this week.

The passenger flights mentioned above include a Cross Country by Flight-Lieut. Allen and Mr. Mouldsdale to Stag Lane and back, and a flight to Blackpool and back by Mr. Davison and Mr. Salter.

Staff Holiday.—Flying will cease on Sunday evening the 7th, and recommence on Friday morning, the 12th inst. (not Thursday morning, as stated last week).

Several members have been noticed wandering about our aerodrome sporting Lancashire Club scarves. Will they please each buy a Liverpool Club scarf to wear when at Woodford?

NEWCASTLE-UPON-TYNE AERO CLUB

(MAR. 11-17).—Instructor: G. M. S. Kemp. Ground engineer: K. C. Brown. Assistant: J. Tait. Aircraft: 3 PT, QV, LX. Flying time: 19.35 hrs. Instruction: 7.55 hrs. "A" Pilots: 6.05 hrs. Solo training: 0.50 hrs. Passengers: 3.50 hrs. Tests: 0.55 hrs.

(MAR. 18-24).—Flying time: 22.15 hrs. Instruction: 7.50 hrs. "A" pilots: 8.55 hrs. Solo training: 3 hrs. Passengers: 2.20 hrs. Tests: 0.10 hrs.

Mr. A. Tomkins completed all the flying tests for his "A" licence on Sunday. Fog has again interfered with the flying, and Lord Ossulston, who called on Wednesday, decided to finish his journey by train. His Moth, WL, is now being polished up for renewal of C. of A.

(MAR. 25-31).—Flying time, 21.50 hrs. Instruction: 7.35 hrs. Soloists: 2.45 hrs. "A" pilots: 9.10 hrs. Passengers: 2 hrs. Tests: 0.20 hrs.

On Good Friday, Miss Yendall successfully completed the tests for her "A" Licence.

We have great pleasure in congratulating Mr. Runciman on his win at the Lympe Meeting of the Cinque Ports Club.

NORFOLK & NORWICH AERO CLUB

(MAR. 17-23).—Total flying time, 21 hrs. 40 mins. Dual, 7 hrs. 14 mins. "A" licence pilots, 10 hrs. 40 mins. Tests, 2 hrs. Passengers, 1 hr. 45 mins. Q.X. having been fitted with a new engine as her engine was away for overhaul did not come into commission until the end of the week and although the weather was exceptionally fine not many members came up to fly. We suspect a certain big race partly to blame for this.

We wonder if other clubs have noticed the increase in flying enthusiasm. Inquiries reach us by almost every post and many people are finding their way to Mousehold to inquire into ways and means and etc., and so we find people who less than six months ago were distinctly prejudiced to flying and all pertaining thereto are presenting themselves for flight and they go away enthusing on the wonders of aviation, as heartily as they deplored them previously. It is to be hoped this is not only a localised revival of enthusiasm and that it will be remembered that it has only been won through the hard work of the flying clubs, their committees and their members. Many have been their sacrifices to popularise flying in this country. Time, friends, holidays, and money have all been freely thrown on the altar of aviation. The clubs have had the uphill work, they have had to fight down the stony prejudices and hard matter of fact opposition in every direction and one cannot blame them for looking forward to receiving the "spoils" of a well-earned victory.

THE NORTHAMPTONSHIRE AERO CLUB

(MAR. 17-23).—One machine: D.H. Moth G-EBRX. Instructor: F.O. James Bunning. Ground Engineer: J. Gallagher.

We are now able to report that our machine has been in commission the whole week, but the weather might have been better, two whole days were unfit for flying, and a gusty wind held up operations several times in addition. We now have 12 pupils under instructions, and Mr. Tyzack holds the record this week for the greatest number of hours, with 1 hr. 40 mins. to his credit. The total number of hours flown this week is 7 hrs. 30 mins.

Our club-house is now in full swing, teas being available last week, and the bar being opened on Wednesday. We have now engaged a steward, so the inner man is well catered for at all times. It is hoped that as many as possible will keep Whit Tuesday open, this being the day of our annual pageant.

NOTTINGHAM AERO CLUB

(MAR. 23-29).—Pilot Instructor: K. K. Brown. Ground engineer: F. H. Harley. Flying time: 21 hrs. 15 mins. Soloists under instruction: 3 hrs. 55 mins. "A" Licence Pilots: 5 hrs. 25 mins. Passenger flights: 30 mins. Tests: 1 hr. 30 mins. Dual: 9 hrs. 55 mins.

As usual, we have to report decidedly foggy weather which has again reduced our flying time. Mr. Cudlip carried out a very successful first solo.

Mr. T. Elder Hearne, of the London Club, with Mr. Humphreys as passenger, paid us a visit on Monday.

SOUTHERN AERO CLUB

(MAR. 25-31).—Fog during the early part of the week kept flying hours down. The club remained open for the holidays and we had several aerial visitors. These included:—Sqn.-Ldr. and Mrs. England on AADD; Sqn.-Ldr. and Mrs. Maynard on EBXF, on their way back from Lympe.

Mr. K. V. Wright and Mr. S. Stucken on the R.A.E. Club "Avian," QN, who had lunch on their way to Lympe.

Herr Kirsche, on his Klemm Salmson, came here for the night on Saturday and gave a demonstration of slow landing in the morning before he took off for Croydon.

Mr. G. Story and Mr. M. Braddell, Members of the Cinque Ports Club, on G-EBTZ, called in for lunch on Sunday on their way from Lympe to Hamble. Mr. Pashley was unfortunate enough to have a visit from the police for having flown low over a sitting hen, causing her to destroy her (Easter) eggs. Chicken runs now constitute a Prohibited Area!

YORKSHIRE AEROPLANE CLUB

(MAR. 17-23).—Pilot instructor: Flight-Lieut. H. V. Worrall. Ground engineer: R. Morris. Assistant ground engineer: G. Speight. Machines in commission: 2 (SV and RF). Flying time: 15 hrs. 15 mins. Instruction: (8), 5 hrs. 55 mins. Soloists: (1), 5 mins. "A" pilots: (8), 6 hrs. 15 mins. "B" pilots: (1), 1 hr. 45 mins. Passengers: (10), 1 hr. 15 mins.

The flying hours have been restricted as we have had fog on three days during the week.

Mr. Stead joined as a pilot member, and Mr. Severs commenced dual instruction.

Miss Leathart and Mr. Runciman of the Newcastle Club called on Thursday on their way back to Cramlington.

Mr. Thompson and Mr. Turnbull of the Newcastle Club visited us on Saturday afternoon.

FROM THE FLYING SCHOOLS

Brooklands School of Flying, Brooklands Aerodrome

(MAR. 11-17).—Managing director: Capt. H. D. Davis, A.F.C. Instructors for the week: Capt. H. D. Davis, A.F.C., Capt. E. A. Jones, Major C. M. Pickthorn, M.C. The hours put in this week are far below what they might have been. Fog compelled us to turn a large number of pupils away during the week and more, especially on Sunday, when they all turn up in force. Two more pupils are welcomed this week—Miss Fernie and Mr. Baker. Our two new passenger machines—110 Le Rhone Avros—are now completed, and the third dual control Avro is well on its way.

(MAR. 18-24).—Total flying time: 52 hrs. Instructors: Capt. H. D. Davis, A.F.C.; Capt. E. A. Jones; Maj. C. M. Pickthorn, M.C.; and J. M. Oliver.

A fairly busy week was brought to a brilliant close by perfect weather conditions on Saturday and Sunday when the flying time reached the amazing figures of 13 hrs. and 17 hrs., respectively. All the school machines were kept in constant action and the school is congratulating itself on a record week of flying. We are hoping that the weather will continue to be kind over the Easter week-end when the school is sending two joy-riding machines to the Cinque Ports Flying Meeting. Several pupils are accompanying the pilots to Lympe, but those who are unable to do so will be looked after at Brooklands by the two pilots left in charge.

We welcomed the members of the Surbiton Motor Club who paid us a surprise visit on Sunday. Many of them took their first joy rides and we are hoping that this will be the first of many visits.

Mr. Wyllie, a prospective pupil for a "B" Licence, arrived on Friday and has already completed his height test and cross-country flight, putting up a very creditable performance in both.

Mr. Luck Nieuwenhuizen put up a very good show in his height test for an "A" Licence.

Mr. Ormrod is the latest recruit to the school. Capt. E. A. Jones had a pleasant trip piloting Sir Philip Richardson's D.H.50 machine when it went to fetch Sir Philip's son and family from Paris.

North Sea Aerial and General Transport, Ltd.; Brough Flying School

(MAR. 17-23).—The weather this week has consisted primarily of thick fog which rendered flying completely impossible except on two days, consequently our total flying time for the week is only 9 hrs.

F./O.s McConnell, James, Scholes and Ely received 55 mins. dual on "Kangaroos," and carried out 7 hrs. 5 mins. solo, whilst Capt. N. W. G. Blackburn put in 1 hr. on the "Bluebird."

F./O.s Scholes and Ely reported on Friday, and F./O. Scholes completed one quarter's flying the same day.

Surrey Flying Services School of Flying, Croydon Aerodrome

(MAR. 11-17).—Instructor: J. J. Flynn. Ground engineers: R. Fox and F. A. LaCroix. Aircraft (1), VA. Flying time, 9 hrs. 5 mins. Passengers carried, 105.

Notes.—Our new Renault Avro is now in commission, and has been successfully tested; it looks as though it is going to have a busy time considering the numbers of pupils that are turning up. We already have one or two reservations as far as two months ahead for new pupils. IV has been shelved temporarily, as our staff have as much work as they can comfortably cope with at the moment. We are glad to welcome Mr. Briggs (who has been away for some time on business) into our fold; he will now think seriously of completing his tests for the "A" licence. Mr. Rogers, another pupil, has purchased his own Avian. A very welcome personage to the aerodrome is our Mr. Smith, who has made a wonderful recovery, and is looking quite fit again. He will, we feel sure, be flying again in the future.

(MAR. 18-24).—Flying time: 7 hrs. 20 mins. Passengers carried: 220. The new Avro is in service and doing good work. Quite a number of pupils from other schools have been to us this week for a few landings, and one flew to Lympe to do his height tests (but not in our machines).

The season is just commencing for the "Joyriding Avros," and judging by the start, quite a number of passengers should be taken up this year.

Apart from the usual school routine, there is nothing sensational to record, although, perhaps, it might be as well to mention that one or two persons have more or less scoffed at us for recording the accident to IV, but what is the use of sending in reports and leaving out the important facts.

Napier "Lions" for Dutch Indies

ALTHOUGH a number of aero-engines are constructed abroad, orders for Napier engines are still being received from foreign countries. One of the latest orders is from the Government of Holland for a number of "Lions" for use in the Dutch East Indies.

Air Mails to South America

THE Postmaster General announces that as from April 1 the rates of air fee charged on correspondence posted in this

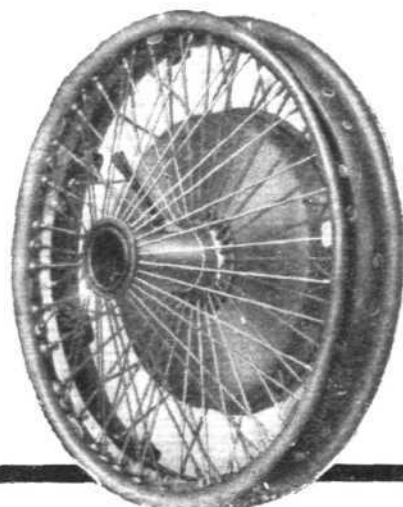
country for conveyance by the air mail via France to South America will be reduced. There will also be a special rate for printed matter, commercial papers and samples. Particulars of the new rates are as follows:—To Brazil.—Letters and postcards, 3s. 6d. per half oz.; printed papers, commercial papers and samples, 3s. per 2 ozs. To Argentine Republic, Uruguay and beyond.—Letters and postcards, 4s. 2d.; printed papers, commercial papers and samples, 3s. 6d. per 2 ozs. respectively. The other conditions regarding the acceptance of air mail correspondence for this service remain unchanged



ON COMING DOWN

TYRES must bear and absorb the initial shock. Wheels must be of tremendous strength, and the fitting arrangements such that the Tyre cannot be thrown from the rim.

Dunlop Wired-Type Tyres on Dunlop Wheels and Well-Base Rims represent the strongest and safest equipment of its kind in the World.



Safe landing on

DUNLOP

**WIRED-TYPE TYRES ON DUNLOP
WHEELS AND WELL-BASE RIMS**

DUNLOP RUBBER CO. LTD.,
Fort Dunlop, Birmingham.
Branches throughout the World.

C.F.H. 601

**"the windscreen
remained unmarked"**

Syntheser,
Riverside Avenue,
Bangalore.

2nd January 1929.

Messrs. Triplex Safety Glass Co. Ltd.,
1, Albemarle Street,
W. 1.

Dear Sirs, I was travelling through the New Forest on Christmas morning in my Buick Saloon fitted with "Triplex", when a pheasant flew out of a hedge and struck the centre of the windscreen. Although the impact was sufficient to break the bird's neck and practically sever its head, the windscreen remained unmarked. I wonder how ordinary plate glass would have behaved in the same circumstances?

Yours faithfully,
Syntheser



Make sure your Car and
Aeroplane are fitted with
Triplex Glass.

Fit **"Triplex"** Reg'd.

-and be safe



TRIPLEX SAFETY GLASS CO., LTD.,
1, Albemarle Street, London, W.1.



Save time by using the Air Mail.

Duralumin

Sheets, Strips, Sections, Bars, Forgings,
Stampings, Tubes, Wires, etc., etc.

JAMES BOOTH & CO. (1915), LTD.,

Argyle Street, Nechells, BIRMINGHAM.

Telephone: East 1221 (Private Branch Exchange).

Telegrams: "Booth, Birmingham."

BROWN BAYLEY'S STAINLESS STEELS for AIRCRAFT.

Supplied in SHEET, STRIP, WIRE, BARS,
PRESSINGS, FORGINGS, RIVETS, Etc., to
meet recognised aircraft tests and specifications.

BROWN BAYLEY'S STEEL WORKS LTD.,
SHEFFIELD.

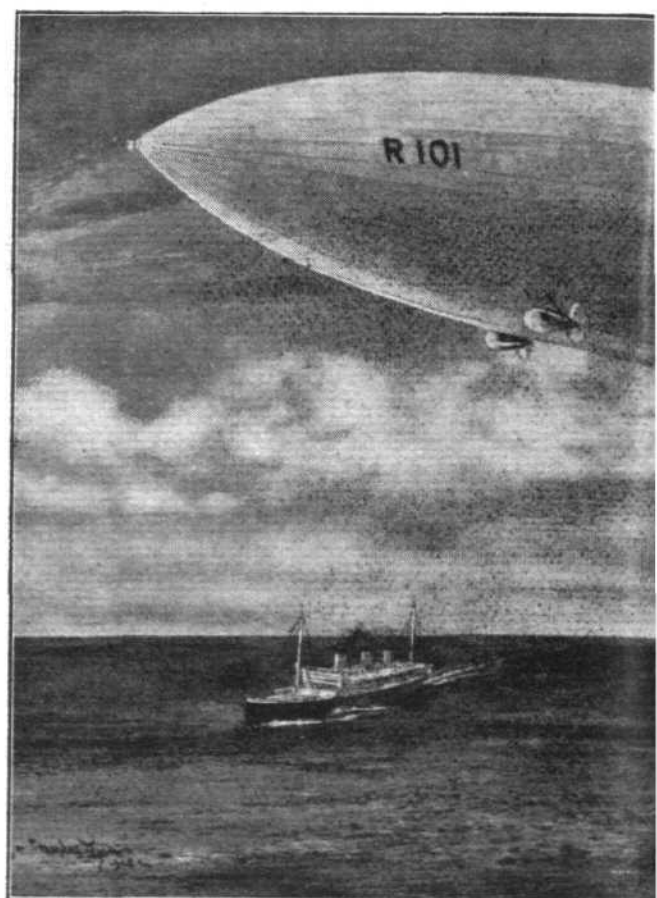
Steel Wire Ropes & Fittings for Mooring, etc.

Manufactured & Supplied by
BULLIVANT & CO. LTD.
DAGENHAM DOCK, ESSEX.

Branch of
BRITISH ROPES LTD.,
32, CAVENDISH SQUARE, LONDON, W.1.

DROP FORGINGS

The
HUGHES-JOHNSON STAMPINGS LTD.,
LANGLEY GREEN, NEAR BIRMINGHAM.



H.M. AIRS

Detail design &
of framework

BOULTON
Aircraft Designers
NO

LONDON: 139, QUEEN

Kindly mention "Flight" when corresponding with advertisers.



SHIP R.101.

Construction
work carried out

PAUL LTD
& Constructors

VICH

Victoria Street, E.C.4.

40,000
ALPAX modified Aluminum
silicon alloy CASTINGS

LIGHTALLOYS LTD.

ST. LEONARDS RD., LONDON, N.W.10.

SOLID DRAWN HEAT-
TREATED NICKEL CHROME
TUBES used on H.M. AIRSHIP R.101

were supplied by

REYNOLDS TUBE CO., LTD.,

HAY HALL WORKS, TYSELEY,
BIRMINGHAM.



MUSSELBURGH,
SCOTLAND.

ALL the
SWAGED TIE RODS
and
FORK ENDS
were manufactured by

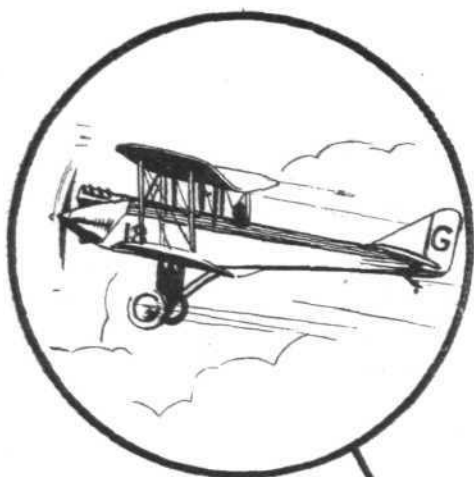
BRUNTONS

*The whole
of the stainless and nickel
chrome steel strip used in the construction
of H.M. AIRSHIP R.101 was
hot and cold rolled by*

J. J. HABERSHON & SONS, LTD.,
HOLMES MILLS, ROTHERHAM.

*Specialists in the manufacture of steel strip and
sheets for all Air Ministry specifications.*

Save time by using the Air Mail.



TITANINE

The World's Premier

DOPE

TITANINE-EMAILLITE LTD.

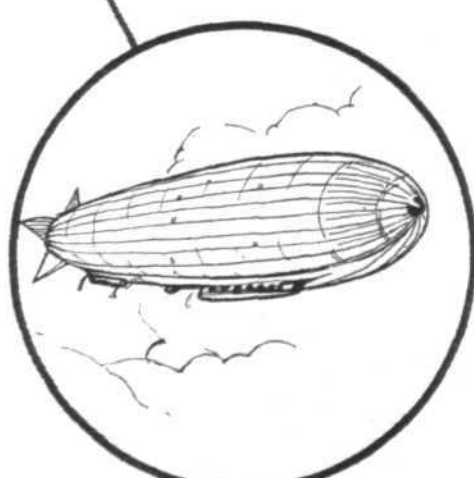
**HEAD OFFICE: Empire House, 175 Piccadilly,
LONDON W.1.**

WORKS:

Hendon (LONDON NW9)
New Jersey (U.S.A.)
Milan (ITALY)
Bremen (GERMANY)

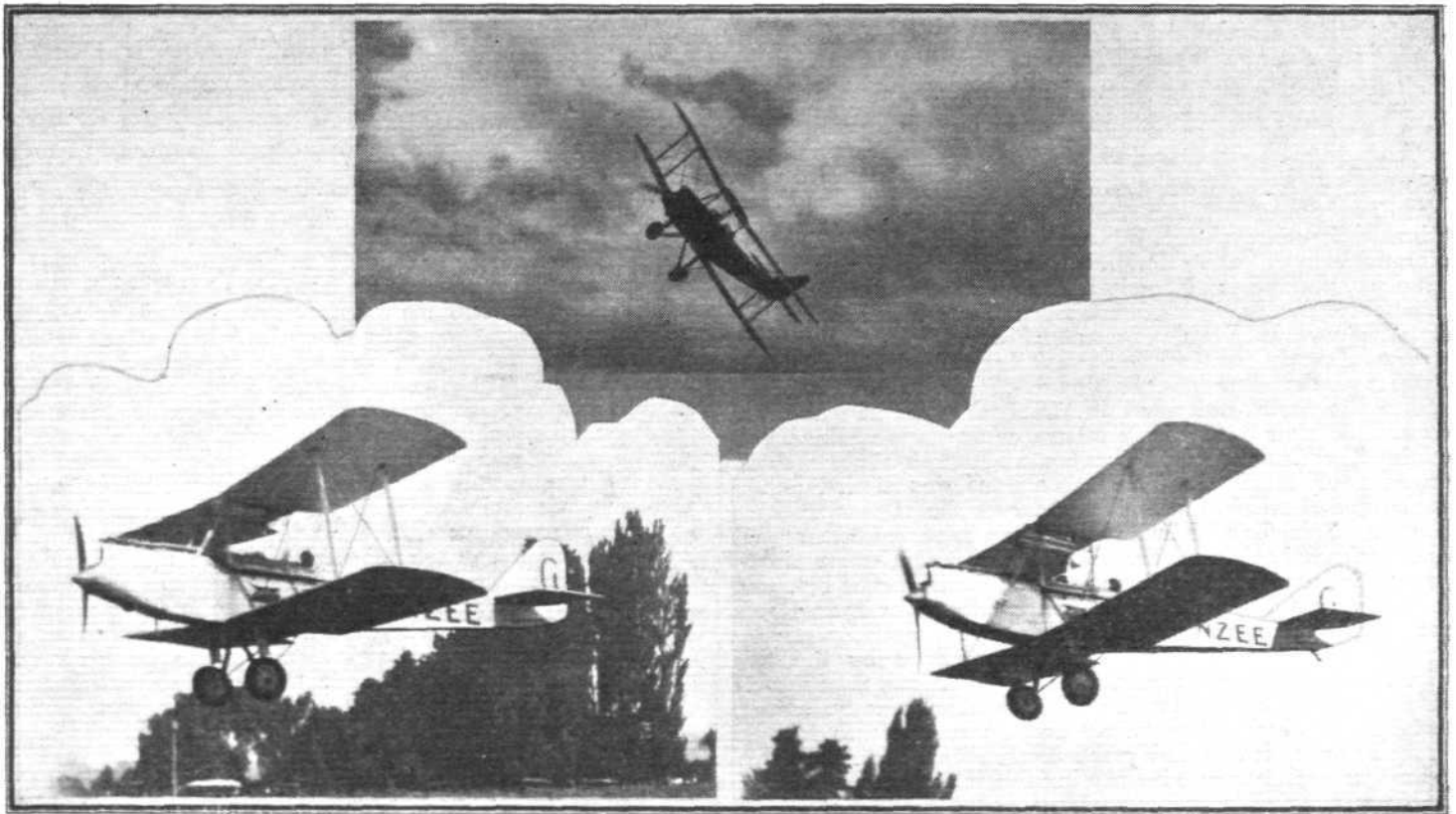
TELEGRAMS & CABLES:

"TetraFree" PICCY LONDON
Codes: ABC 5TH EDITION
& BENTLEY'S



Kindly mention "Flight" when corresponding with advertisers.

GOING AHEAD IN NEW ZEALAND



The Avro "Avian" inducing air-mindedness into the people of Napier, a town in the North Island of New Zealand, where an aero club is being formed. On the occasion when these machines were flying, about 300 people were flown at one guinea each. Below, two views of Napier, New Zealand, from the air.

FLYING Clubs modelled on our system and operating with our light aeroplanes are now in being in most of Great Britain's largest Dominions. They have long since been established in comparatively large numbers in Canada and Australia and South Africa, and, in recent times, in lesser numbers, in India and New Zealand. The illustrations with this article give a glimpse of the present-day aviation propaganda in New Zealand. The machines, Avro "Avians," were being flown at Napier, which is a town on the east coast in the North Island, south of Auckland. They were engaged in joy-riding, and belong to the Goodwin Chichester Aviation Co., which employs four pilots, all ex-service men. The machines were piloted by Capt. Stedman, Capt. G. Bolt and Capt. Hewitt.

Three hundred joy-ride flights were made on this particular occasion at the rate of one guinea each. Napier is forming a club, and it has had liberal financial offers and other practical aid.

Last year the New Zealand Government decided to subsidise two or three approved clubs, and the Auckland Aero Club was the first. It had a membership of over 300 within a few months, and a long waiting list. The New Zealand Government gives the Club a bonus for every pilot trained, and if the pupil has not damaged the Club's aircraft whilst obtaining his "A" licence, nine guineas of his entrance fee of ten guineas are returned to him. The last figures given relating to the Auckland Club showed a membership of 373, with 61 flying pupils. New Zealand will undoubtedly be linked by regular air services with Australia. It will be remembered that Sqdn.-Ldr. Kingsford-Smith and Flight-Lieut. C. Ulm flew the Tasman Sea in their *Southern Cross* (Fokker) monoplane from Sydney to Christchurch last September. They flew 1,500 miles in 14 hrs. 12 mins. flying time. That flight led to the New Zealand Government presenting them with £2,000. A successful return flight was accomplished on October 13-14. Two Government aeroplanes provided an escort for the first 100 miles. When they reached the Australian coast a thick fog belt was entered, and for two hours they flew round trying to find their position. When a safe landing was eventually made at Richmond Aerodrome only three gallons of petrol remained. There was a previous attempt to bridge the Tasman sea by air by two Australian airmen, but it failed, and the two airmen were never found. They used a single-engine machine.





South Atlantic Flown Again

THE South Atlantic has been flown once more: this time by Spaniards, Capt. Jimenez and Capt. Iglesias, who flew from Seville to Bahia, Brazil, between Port Natal and Rio de Janeiro, a distance of nearly 4,000 miles, in 43 hrs. 48 mins. The start was made on Sunday afternoon, March 24, and a landing made on Tuesday morning, March 26. Their machine, named *Jesus of Great Power*, was a Spanish-built Breguet 19 (600 h.p. Hispano). After leaving Seville their course followed down the north-west coast of Africa, then direct across the ocean, passing Cape Verde Island, where the machine was sighted, and Fernando Noronha, and so to the Brazilian coast at Port Natal. The latter place was circled and a squadron of military machines escorted the airmen towards Bahia. This flight failed to beat the long-distance record set by Capt. A. Ferrarin and Maj. del Prete, the Italian pilots, over the same course, who were in the air for 59 hrs. and covered over 5,000 miles with a non-stop flight from Rome to Port Natal.

A tour of South America is now planned by the two Spaniards, touching at places like Buenos Aires, Santiago de Chile, and along the Pacific coast to Mexico and Havana, where the tour will probably end. They flew to Rio de Janeiro on March 28, and reached Montevideo on April 2.

Australian Airmen Missing

SQDR.-LDR. KINGSFORD SMITH and Flight-Lieut. C. P. Ulm, the Australian airmen who flew the Pacific, are missing. They started from Sydney on March 30 in the *Southern Cross* monoplane (Fokker) on a non-stop flight to Wyndham, North Australia, 2,000 miles, and sent wireless messages for some time. They reported an approach to stormy areas, then no further news was received. A report that the monoplane had landed 200 miles from Wyndham appears to have no foundation. Besides the two pilots a mechanic and wireless operator are on board. This flight was the beginning of an attempt to fly to England. Western Australian Airways, Ltd., has sent a machine to assist in the search. Wireless messages are also continually being broadcast, but although these may be received by the crew, they are not able to reply whilst on the ground. The country in which they are presumed to have landed is very wild and inhospitable.

Capt. Lancaster's Flight

A RECENT message from Port of Spain, Trinidad, states that Capt. W. Lancaster, who, flying an Avro-Avian (Cirrus), left New York on March 4, has arrived from Barbados.

Croydon-Cape Town Flight

SQDR.-LDR. L. H. SLATTER, who is flying from Croydon to Cape Town in a Blackburn-Bluebird (Gipsy) light aeroplane, has arrived at Khartoum, states a report on April 1.

Paris-Indo China Flight

M. BAILLY and M. Reginensi, the French airmen, landed at Allahabad on April 2, having started from Karachi in the early morning. They are flying from Paris to Indo-China and are leaving Allahabad for Calcutta or Rangoon next.

Dutch East Indies Service

THE Royal Netherlands Air Service has now obtained permission from the British authorities for Dutch aeroplanes to land on British aerodromes on the way to the Dutch East Indies. On account of the delay in obtaining this authorisation, it will not be possible to begin the proposed regular fortnightly service to the East Indies until next September. The machines will carry both passengers and mails. From the middle of May the Royal Dutch Air Service will open a direct daily service between Berlin and Rotterdam. This service will enable passengers to reach London in one day from Budapest, Vienna, Breslau, and Königsberg.

"Graf Zeppelin's" Flight

THE *Graf Zeppelin* landed at Friedrichshafen at 10.15 a.m. on March 28, on the conclusion of her Mediterranean trip, which occupied over 80 hrs. She was greeted by a large crowd, who cheered enthusiastically as she was moored.

The airship left Friedrichshafen early on March 25, carrying 28 passengers, among whom were Lady Drummond-Hay, and two other women. The Zeppelin flew to Marseilles, and then to Palestine, via Genoa, Rome, and Cyprus, dropping

her cargo of 16,000 letters *en route*. She made the return flight via Greece and Vienna, flying altogether about 5,000 miles.

Atlantic Seaplane Service

A GROUP of Argentine business men have purchased the Fokker monoplane *Friendship*, in which Miss Amelia Earhart, the Boston school teacher, flew the Atlantic last summer from Newfoundland to Burryport, South Wales.

The machine, it is announced, will be put on a commercial aviation service from Buenos Aires to Europe—possibly some city in Spain.

American Endurance Record

MR. MARTIN JENSEN, at Roosevelt Field, New York, on March 28, established a world's solo endurance flight record of 35 hrs. 33 mins. 21 secs.

American Orders for Germany

HERR DORNIER, one of the principals of the Dornier Aviation Construction Company in Friedrichshafen, has just returned from a journey to the United States in the course of which he secured an order for the construction of several Dornier "Super-Wal" flying-boats from the Detroit-Cleveland Navigation Company, which has decided to supplement its steamship lines by a passenger service.

Polish Pilot's Long Tour

MR. B. DE SKORSEWSKI, the agent in Poland for the De Havilland Aircraft, Ltd., is making a long tour by air on his Gipsy-Moth in the course of a return flight to his country. He left England at the end of November, and recently word was received from him from Zarzis, which is south of Tunis. He is apparently having a very pleasant tour, free of trouble, and has already covered about 3,700 miles since leaving London. This distance has included 621 miles over the Sahara desert, and a flight as far south as Tuggurt and El Oned Oasis in North Africa. His homeward course will be *via* Tunis, Sicily and Vienna.

Gipsy-Moths in India

A REPORT from India states that all the Gipsy-Moths supplied to the Indian Government for the new flying schools at Bombay, Delhi, Calcutta, Karachi and Allahabad are giving satisfaction. The Bombay Club has already done 200 hours' flying in five weeks with its two Gipsy-Moths without trouble or replacement.

New Freight Services

A DAILY air service for express shipments passing between Canada, the United States, and the Continent has been inaugurated by the Canadian National Express Company, in co-operation with Imperial Airways, the French Air Union, the C.I.D.N.A. of France, and other important Continental air lines. Under the new arrangement it will be possible for Canadian and American exporters to save from one to several days in the delivery of goods to Continental centres.

The Continental shipper will enjoy a similar advantage, as packages will be sent by air from all parts of Europe to Southampton and other Channel ports in time to catch the first available liner for North America. As an example of the saving in time, packages shipped from Prague on a Friday will reach Cherbourg in time to connect with the steamer sailing for Canada the following day. The new service will be advantageous to exporters of model gowns and millinery, where speed of delivery is the first essential.

The first package handled under the new arrangement left Croydon, March 29, by Imperial Airways for Paris. It consisted of a small lot of valuable Canadian furs for a Paris salon.

Cierva "Autogyro" in France

THE practical utility of Señor de La Cierva's autogyro machine has again been demonstrated in France by a flight from Paris to Troyes, with M. Massot as pilot. The machine, which is taking part in an aviation meeting at Troyes, covered the distance of 86 miles in exactly 1 hour. The take-off was made in the short distance of 20 yards. The machine then rose almost vertically to an altitude of about 1,000 ft.

Klemm-Daimlers in English Market

AT Croydon Aerodrome on March 21 a demonstration of the German Klemm-Daimler was given. These machines are to be entered in the English market for light aeroplanes.

SAMUEL FOX & CO. LTD.

STEEL MANUFACTURERS

MANUFACTURERS
OF
COLD ROLLED STRIP
AND
COLD DRAWN WIRE

In all sizes and to all specifications for Automobile and Aeroplane Work.

K16, 3S.L., 5W3., S.3,
Etc.



WE SPECIALIZE
IN

Cold Working

"FIRTH STAYBRITE" STEEL

into WIRE all Sizes and Specifications.

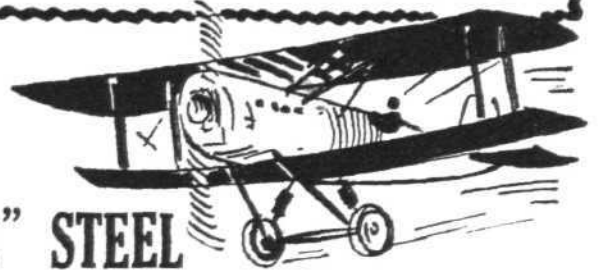
COLD ROLLED STRIP — All Sizes.
POLISHED & UNPOLISHED.

On A.I.D. Fully Approved List.
On Admiralty and War Office Lists.

SAMUEL FOX & CO., LTD.

Stocksbridge Works,
NEAR SHEFFIELD.

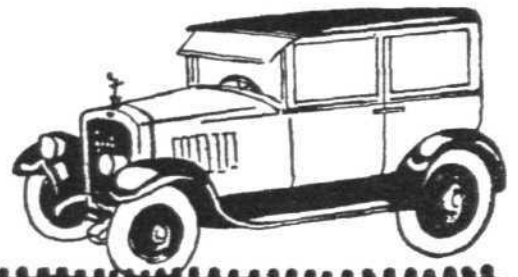
Phone: OUGHTENBRIDGE 40871. Grams: "FOX-DEEPCAR."
(4 lines.)



D.T.D. 43S.

and

D.T.D. 43H.



Cellulose Acetate Dopes.

Used on all War Planes and on Post-War Record Machines. Produces the greatest Tautening, Weather Proofing and Fire Resisting Effects. Unlimited Supplies. Contractors to British and other Governments.

The Dope for all conditions of Climate, &c.

"CELASTOID"

A new material for Aircraft Fitting and Fancy Articles. Strong, Safe, ALL COLOURS—Opaque or Transparent. Windows, Rain-Spot and Waterproof. Does not turn Yellow.

BRITISH CELANESE LIMITED.

Sales Dept. Head Office: Celanese House, Hanover Sq., London, W.1. Telephone: Mayfair 8000.
Works: SPONDON, DERBY.
DOPE and SOLUTION, and STORES: WILLESDEN, N.W. Telephone: Willesden 2380.

Save time by using the Air Mail.

GEORGE PARNALL & CO.

PROPRIETOR GEORGE G. PARNALL.

AIRCRAFT DESIGNERS & CONSTRUCTORS.

Telephone :
No. 4773 (3 LINES).

Telegrams :
"WARPLANES,
BRISTOL."



The Parnall "Imp" with Armstrong-Siddeley "Genet" engine.

FACTORIES :

PARK ROW, BRISTOL.

FEEDER ROAD, BRISTOL.

QUAKER FRIARS, BRISTOL.

MIVART STREET, BRISTOL.



COLISEUM WORKS

PARK ROW

BRISTOL

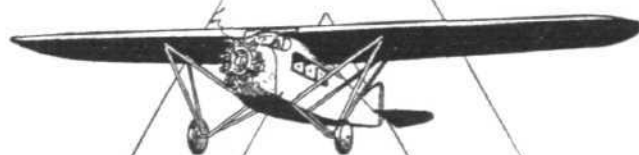


LONDON OFFICE :
EVELYN HOUSE, 62, OXFORD ST.,
W.1. TEL.: MUSEUM 7101.

EXPERIMENTAL WORKS, AND TEST
STATION :
YATE AERODROME,
GLOUCESTERSHIRE.
TEL.: CHIPPING SODBURY 50.

A. LEVELL
1926

THE SIGN OF SAFETY.



· R · O · P ·

AVIATION SPIRIT.

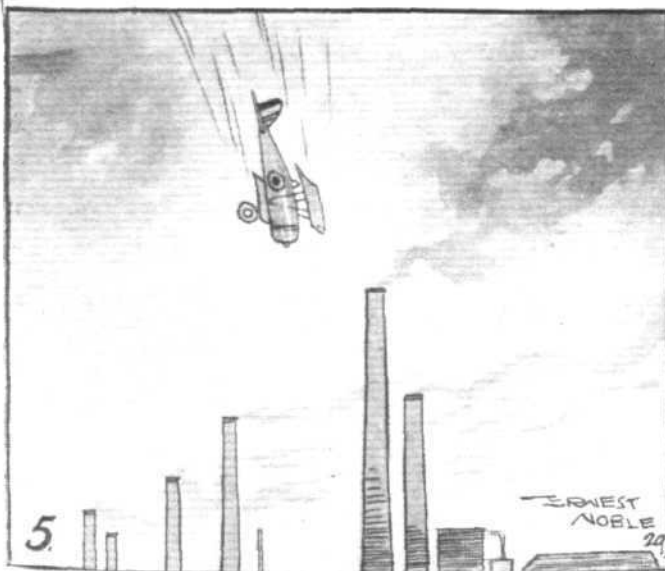
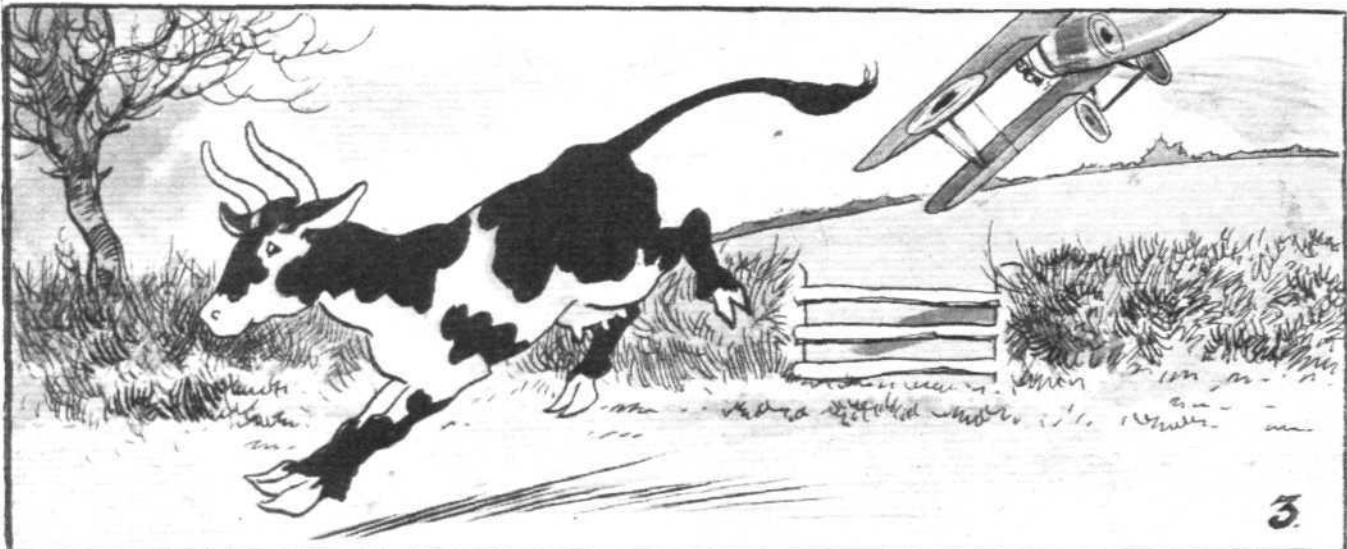
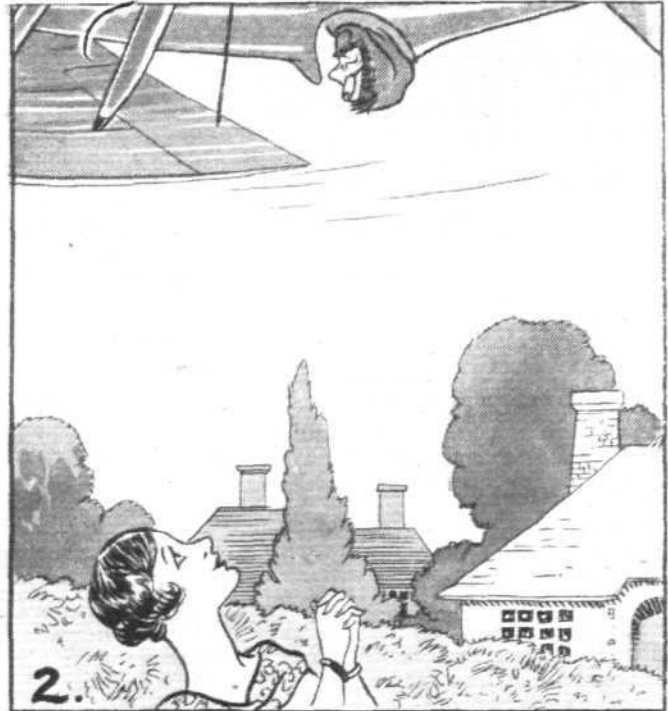
RUSSIAN OIL PRODUCTS LTD.

MOORGATE HALL, LONDON, E.C.2.

PHONE : LONDON WALL 9204-5.

Kindly mention "Flight" when corresponding with advertisers.

Disrespectfully Dedicated to the "Ground Flyer"



No. 1. Rounded OLD Uncle Reg up at Chester. 2. Did a little inverted flying to amuse Lulu at Lincoln. 3. Nearly "hit the deck" shooting up a cow at Caversham. 4. Something happened, I'm not sure what. 5. Put the wind up a Factory at Coventry. 6. And here I am!

EDDIES

TACT, Tact, nothing like Tact! in the words of the old song. As an illuminating example of this much-to-be-desired gift, it would be hard to beat the episode tabled by Lord Byng the other day when speaking at a Convalescent Police Seaside Home meeting. "It is quite fair," said the Chief Commissioner of Police, "to say that on 95 per cent. of the occasions when a policeman has to act he must act with his brains and on the remaining 5 per cent. with his brawn. When a constable stood on point duty at the Marble Arch recently an aeroplane passed overhead. Three people asked him what it was. Four wanted to know where it came from, four where it was going, and seven why it was there. Every one of these inquirers the constable sent away satisfied. What he said or did I do not know, but he did what I could never have done myself—he answered eighteen people concerning what he did not know himself."

THAT'S what I call tact, truly, Robertus may, however, one of these days, have to make himself wise, when the Force is promoted—or elevated—to the realms of the Air and devises traps—speed or otherwise—in the ether.

IT transpired at a recent meeting of the Institution of Naval Architects that the high-speed motor life-boat being built by Messrs. Thornycroft—which, nominally, is for dealing with aircraft casualties in the Channel—is 64 ft. in length and the speed 17 knots, this particular craft being demanded, according to Sir John Thornycroft, by reason of the responsibilities of the Royal National Life-Boat Institution to save the crews of aircraft, who happened to get into the water. The speed of the ordinary life-boat, said Sir John, would be quite insufficient to enable the salving party to reach the middle of the Channel in time.

But why for goodness sake should it be assumed that aircraft always come down in mid-Channel? And how often does it occur anyway? In the past, yes, perhaps; but now it is but a very rare occurrence, and before long it should be unheard of, practically.

HOW often it is that as one goes through life, one's ordinary work and routine ultimately and unexpectedly provides matter of value and thought entirely outside the main objective of that work. As a very good instance the air photographs brought together from the Middle East by Mr. O. O. S. Crawford, editor of *The Antiquary*, at the Royal Geographical Society's rooms, is outstanding. Here we see the wonderful results of the eye of the camera. Gleaned from an interview with Mr. Crawford, some interesting facts have transpired. The R.A.F. in the ordinary routine of practice, have secured quantities of photographs of ancient monuments in the East, and objects in the Desert, many being but casual "snaps" of anything that might appear to be out of the ordinary, very little attention being given at the time to these "side-lines." Mr. Crawford, one of the pioneers in archaeology from the air, however, made the discovery that there was more in these than appeared at first glance, with the result that he made a tour of the Middle East for the express purpose of collecting these R.A.F. so-called, so far as military interest is concerned, "obsolete photographs."

FROM the archaeological point of view, however, they assume a position of vast value, and no less than 1,700 of them have found a place in the British Museum as the nucleus of a national collection. Study of these photographs reveals wonderful records of dead cities. For instance, views of Samarra, when matched together, show clearly the "lay-out" of this ninth century city, main streets, narrow streets, house plans, palaces and gardens, and all the details of a buried past. Again Hatra—70 miles from Mosul—is in like manner made plain with its Roman-built wall; Erbil, said to be the oldest inhabited city in the world, can be visualised on its centuries of "municipal dirt-mound," and Selencia, although quite unnoticeable when on the ground, becomes once more a characteristically planned Macedonian town. Naturally Mr. Crawford is almost in a fever, to be able to go beyond these casual R.A.F. snaps and compile a complete air survey of the fascinating and romantic Middle East of by-gone ages. May he succeed in obtaining the necessary financial backing for such research, as the subject deserves.

LAST week Col. The Master of Sempill, reminded us of his versatility by indulging in a one-time favourite hobby of his—motor-cycling. He put in quite a gruelling two hours or more speed practice on the White City dirt-track, probably as a preliminary to some racing during this season. His interests are indeed varied as an all-round sport, and his whole-hearted work in the past two years for the Royal Aeronautical Society and his fine flying record, place him in the forefront as a leader in aviation. I am just wondering how the Royal Aeronautical Society, under their existing rules will be able to retain his chairmanship of the society for a further spell. *Something* should be done before the next election is toward, in order that so valuable a friend and guide should not be lost to the society. So now, what about it? Will somebody move in the matter?

APROPOS of the weird panel "Wind," which forms part of the new Underground Railway offices at Broadway, Westminster; Oh! to understand Art with a real big "A." How such a representation of "wind" can have been permitted to be perpetrated as a permanency it is difficult to understand, it being the more remarkable having regard to the wonderful taste and judgment shown in Underground advertisement posters, etc. Since the publication of this wonderful "wind" panel, some of the epithets which have been hurled at it by correspondents appear to be none too strong for the subject. The following is a selection of just one or two. "A female figure with a dislocated neck, an amputated hand, elephantine legs and rudimentary feet"; "If to reject all that has been learned of sculpture since the time of the cave dwellers and to substitute for the art of Greek sculpture 'ugliness, clumsiness, distortion, and impossible anatomy for beauty and grace of form,' . . . is to be great, then truly Mr. Epstein is great." and so on. In fact one can almost say that, to the man in the street, the execution is as crude, if not more so, as some of the almost shapeless animal objects of 3,700 years B.C., now being unearthed from the Royal Tombs of ancient Kish. Surely the present world of art can hardly justify reverting to such terribly primitive productions, and even Mr. Richard Sickert must find it difficult to justify his championship of the artist.

"SKY LINES INCORPORATED" is the title of a new aeroplane service in America, which Mr. Paul Chapman intends inaugurating with a fleet of 20 aeroplanes, to meet at New York his ships of the United States Lines and American Merchant Lines and to transport passengers thence inland as far as San Francisco. Needless to say each machine, according to programme, capable of carrying 20 passengers besides a couple of pilots, is to be of the very latest up-to-date luxurious design. America certainly seems to be planning big things in commercial aviation.

GENTLEMEN Cadets will not in future be allowed to keep or drive motor vehicles while in residence at Sandhurst. Such is the latest edict issued by the Commandant of the R.M.C., it would appear, primarily, for fear that the motor speed law may be infringed. Apparently, the only outlet for the cadets, on which to expend their superfluous energies, will be to take to the air, where, anyway for the present, a speed limit is *not* in force.

ONE hundred air-liners entering or leaving Croydon aerodrome during the three-day Easter holiday! Moreover, all of them laden to full capacity with pleasure seekers. Prodigious. Just think of it and compare with only a year gone by—and this is only the commencement of the Era of the Air.

ENGLAND-INDIA Air Mail opening run has indeed justified the wonderful organisation of Imperial Airways. It sets me guessing, though, when I read that it is "running to schedule time a la railway" and in the same sentence that the "air-liner landed at Basle 17 mins. ahead of time!" Evidently, the writer is a bit of a humorist, but at least it should drive home the advent of another threat to railway interests. *Air versus Rail!*

AEOLUS

"EAGLE" AUTOMATIC ELECTRIC AIRCRAFT CAMERAS

USED THROUGHOUT
THE WORLD FOR AIR
SURVEY PHOTO-
GRAPHY IN ALL
TYPES OF AIRCRAFT.

ILLUSTRATED CATALOGUE
ON REQUEST

MANUFACTURERS
and
PATENTEES

WILLIAMSON MANUFACTURING CO., LTD.,

SPECIALISTS IN AIR PHOTOGRAPHIC APPARATUS
LITCHFIELD GARDENS, WILLESSEN GREEN,

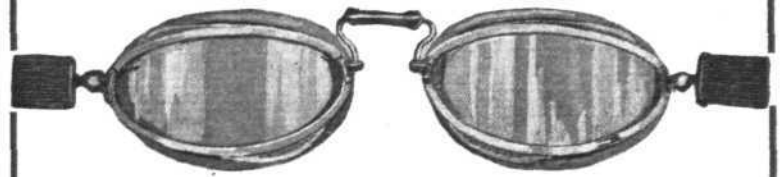
TELEPHONE:
WILLESSEN -
0073 - 0074.

LONDON, N.W.10.

TELEGRAMS:
KINETOGRAM,
WILLROAD, LONDON.



LUXOR GOGGLES



Prices:

35/- 40/- 45/-

Complete Comfort — Perfect Vision — No Air
Seepage—No Fogging — Adjustable Bridge—No
Pressure — Won't Slip — Optical Precision.

Made by

E. B. Meyrowitz
LIMITED.

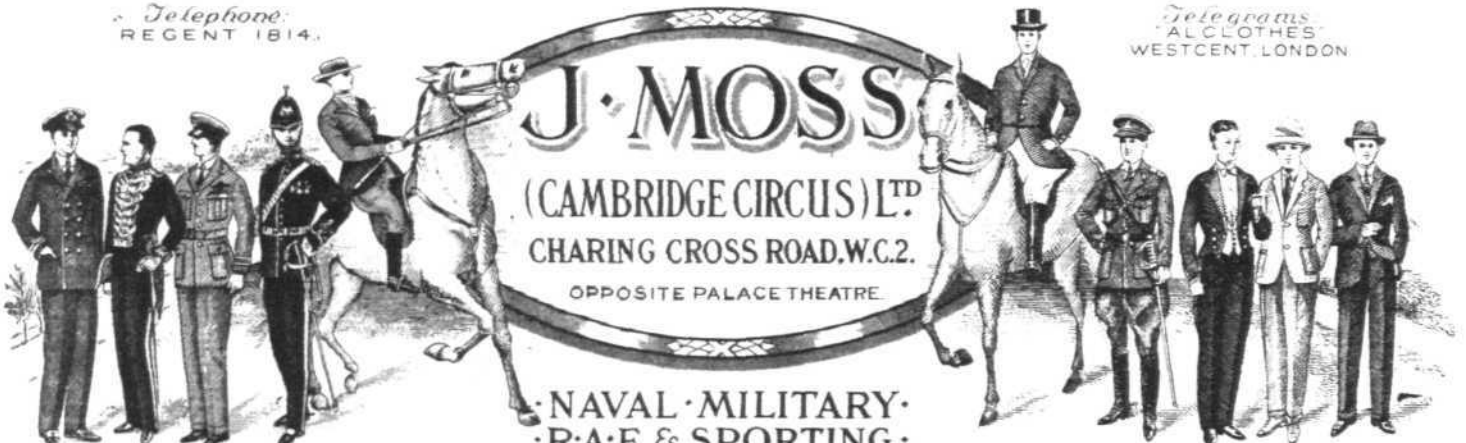
199, Regent Street,

1a, Old Bond Street,

London, W.1.

Telephone:
REGENT 1814.

Telegrams:
ALCLOTHES
WESTCENT LONDON



J. MOSS

(CAMBRIDGE CIRCUS) LTD.

CHARING CROSS ROAD, W.C.2.

OPPOSITE PALACE THEATRE.

NAVAL · MILITARY ·
R.A.F. & SPORTING ·
OUTFITTERS ·

COURT DRESS & UNIFORMS
FOR ALL OCCASIONS

DRESS & WEDDING ATTIRE
FOR SALE OR HIRE

COMPLETE R.A.F. OUTFITS.

We append a scale of our charges, and on comparison you will notice our prices are the keenest obtainable, but although low a high standard of quality is maintained.

You can with confidence place your order with us as we are

OFFICIALLY RECOGNISED R.A.F. OUTFITTERS.

Service Tunic	-	-	-	£5 10 0	Service Shirt	-	-	-	7 6	Mess Suit	-	-	-	£12 16 6
" Slacks	-	-	-	£2 5 0	" Collar	-	-	-	1 0	" Cap and Badge	-	-	-	£1 10 0
" Breeches	-	-	-	£3 10 0	" Tie	-	-	-	3 6	" Shirt	-	-	-	10 6
" Great Coat	-	-	-	£8 0 0	" Socks	-	-	-	3 6	" Collar	-	-	-	1 0
" Raincoat	-	-	-	£2 17 6	" Boots	-	-	-	£1 10 0	" Bow	-	-	-	2 0
" Cap and Badge	-	-	-	£1 8 0	" Shoes	-	-	-	£1 5 0	" Wellingtons	-	-	-	£2 10 0
" Stick	-	-	-	3 6	" Puttees	-	-	-	11 6	" Epaulettes	-	-	-	11 6
" Gloves	-	-	-	10 6	Gymnasium Shoes	-	-	-	8 6	(for Great Coat)				

ILLUSTRATED PRICE LIST ON APPLICATION.

We make a special feature of supply outfits to newly commissioned officers awaiting grant.

LARGE STOCK OF PART-USED KIT.

Save time by using the Air Mail.



The "GIEVE" Flying Helmet



£2.2.0
complete

£2.2.0
complete

Black Chrome Leather fitted with detachable "De Havilland" Phones.

GIEVES LTD.,
21, Old Bond Street, London, W.1
Telegrams: Muftis, London. Telephone: Gerrard 3318.

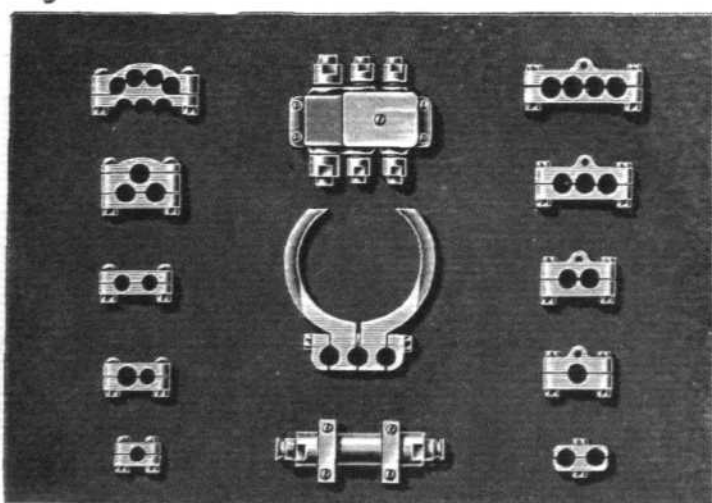
ESTABLISHED 1860.

D. H. BONNELLA & SON, LTD.

AERONAUTICAL & ELECTRICAL ENGINEERS.

MANUFACTURERS OF

CABLE CLAMPS AND JUNCTION BOXES.



46-48, OSNABURGH STREET,
EUSTON ROAD, LONDON,
N.W.1.

Telephone Nos.: Museum 1882, 0504 & 8393.

AVIATION BOOKS

- | | | |
|---|--|-----------|
| "Duralumin," | By LESLIE AITCHISON | ... 7d. |
| (<i>"Flight" Library—Vol. II.</i>) | | Post Free |
| "Flying," | By LT.-COL. W. LOCKWOOD MARSH, M.A. | 1/1½ |
| | | Post Free |
| "Æolus" (or The Future of the Flying Machine), | By MAJOR OLIVER STEWART, M.C. | 2/9 |
| | | Post Free |
| "International Aircraft Markings, Naval, Military and Civil," | (Illustrated in Colour.) | 2/9 |
| | By LT.-COL. W. LOCKWOOD MARSH, M.A. | 2/9 |
| | | Post Free |
| "Pilot's 'A' Licence," | By JOHN F. LEEMING | 3/9 |
| | | Post Free |
| "Aerobatics," | By MAJOR OLIVER STEWART, M.C. | 5/4 |
| | | Post Free |
| "The Art of Flying," | By CAPTAIN NORMAN MACMILLAN | 5/6 |
| | | Post Free |
| "Dick Eird, Air Explorer," | A Book for Boys | 6/6 |
| | By FITZHUGH GREEN | Post Free |
| "The Strategy and Tactics of Air Fighting," | By MAJOR OLIVER STEWART, M.C. | 6/6 |
| | | Post Free |
| "A B C of Flight," | By W. LAURENCE LE PAGE | 8/- |
| | | Post Free |
| "Flying with Lindbergh," | By DONALD E. KEYHOL | 11/- |
| | | Post Free |
| "Civil Aviation" ... | | 13/- |
| | | Post Free |
| "The Law in Relation to Aircraft," | By LAWRENCE ARTHUR WINGFIELD, M.C., D.F.C., and REGINALD BRABANT SPARKES, M.C. | 13/- |
| | | Post Free |
| "The Great Trans-Pacific Flight," | The story of the "Southern Cross," | 13/- |
| | By KINGSFORD-SMITH & ULM | Post Free |
| "Twenty-five Years of Flying," | By HARRY HARPER | 13/- |
| | | Post Free |
| "Skyward," | By COMMANDER RICHARD E. BYRD, U.S. Navy. | 15/6 |
| | | Post Free |
| "The Baghdad Air Mail," | By RODERIC HILL, M.C., &c. | 18/6 |
| | | Post Free |
| "The Zeppelins," | By CAPTAIN ERNST A. LEHMANN and HOWARD MINGOS. | 18/9 |
| | | Post Free |
| "Aircraft Handbook," | By COLVIN and COLVIN | 20/6 |
| | | Post Free |
| "Airplane Design & Construction," | By POMILIO | 25/6 |
| | | Post Free |
| "Aeroplanes, Seaplanes and Aero Engines," | By CAPT. P. H. SUMNER... | 25/9 |
| | | Post Free |
| "Airmen or Noahs," | By REAR-ADMIRAL MURRAY F. SUETER, C.B. | 25/9 |
| | | Post Free |
| "Ferrous Materials," | By ARTHUR W. JUDGE, Wh.S. | 25/9 |
| | | Post Free |
| "The Rigid Airship," | By E. H. LEWITT, B.Sc. | 30/6 |
| | | Post Free |
| "The Airplane Engine," | By LIONEL S. MARKS | 30/6 |
| | | Post Free |
| "Automobile and Aircraft Engines," | By ARTHUR W. JUDGE, Wh.S. | 30/9 |
| | | Post Free |
| "Airplane Design." Vol. I. | By EDWARD P. WARNER | 38/3 |
| | | Post Free |

All above are obtainable upon application to:

"FLIGHT" Office,
36, Great Queen Street, Kingsway, W.C.2.

Kindly mention "Flight" when corresponding with advertisers.

THE ROYAL AIR FORCE

London Gazette, March 26, 1929

General Duties Branch

The follg. are granted short service commns. as Pilot Officers on probation, with effect from and with seniority of March 15:—J. E. Ashworth, J. D. Baker-Carr, L. W. A. Binks, G. H. Binns, P. F. Corbett, R. C. Dawkins, D. R. C. B. de Sarigny, R. F. Fletcher, D. A. Gowing, T. W. Hodgson, R. R. R. J. Holmes, E. G. Hucker, B. J. Hurren, G. B. Kelly, F. Lemon, C. R. Lousada, A. R. MacKewn, A. A. McLaren, H. E. Mayes, H. L. Messiter, J. S. D. Miles, C. V. Ogden, G. J. Pawson, C. M. Rees, H. A. Shotton, J. C. W. Staveley, E. A. H. Tanner, A. J. Tunnard, A. C. P. Westhorpe, D. E. T. Whittlesea.

Lt. G. R. M. Robinson, R.N., is re-attached to R.A.F. as a Flying Officer with effect from March 8, 1929, and with seniority of June 16, 1924; Pilot Officer on probation M. Lowe is confirmed in rank (Dec. 30, 1928). The follg. Pilot Officers are promoted to rank of Flying Officer:—J. E. Markby, H. G. Hicks, J. C. B. Tindling, J. B. Veal, J. W. Smith, P. H. Smith, W. D. J. Michie, H. L. Piper, R. W. K. Stevens, M. C. Collins, C. A. Pearson, P. F. Lutton, K. C. T. Marshall, L. W. Howard (March 2); D. M. Harrison (R.A., T.A.), with seniority of March 2 (March 9).

The follg. are transferred to Reserve:—Class A.—Flight Lt. E. R. Maddox, M.C. (Lt., Hamps. Regt., R.A.R.O.) (March 25). Class C.—Flight Lt. A. Haines (March 27). Flying Officer E. G. Duncan Stewart, M.C., is transferred to Reserve, Class A (March 5) (Substituted for *Gazette*, March 12); Flying Officer (Hon. Flight Lt.) A. E. G. Forrest resigns his short service commn. (March 14) (Substituted for *Gazette*, March 12). The short service commns.

of the follg. Pilot Officers on probation are terminated on cessation of duty:—M. L. McCulloch (Feb. 27); B. H. Gahan, A. C. R. Mackenzie, E. C. Ridler, E. C. A. Wheeler (March 23).

Stores Branch

Squadron Leader F. Grave, M.B.E. is placed on retired list (March 21).

Medical Branch

Flying Officer E. J. T. McWeeney, M.B., is promoted to rank of Flight Lt. (March 24); Flying Officer G. M. Titterton (temp. Lt., General List, Army Dental Surgeon) relinquishes his temp. commn. in the R.A.F. on completion of service (March 12).

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The follg. are granted commns. in Class AA (ii) as Pilot Officers on probation: W. G. Eatherley (March 13); T. B. Cooper (March 14). Pilot Officer on probation L. C. Williams is confirmed in rank (March 20).

The follg. Flying Officers relinquish their commns. on completion of service:—A. M. West (March 14); O. D. Freeman (March 22); E. M. Milling (March 24).

AUXILIARY AIR FORCE

General Duties Branch

No. 603 COUNTY OF EDINBURGH (BOMBING) SQUADRON.—The follg. to be Pilot Officer:—R. I. Kynaston (Nov. 12, 1928).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commander H. Blackburn, M.C., A.F.C., to Air Ministry (Dept. of A.M.S.R.) (D. of E.) for staff duties, 9.2.29.

Flight Lieutenants: H. J. Saker, to R.A.F. Depot, Uxbridge, 8.2.29. B. A. S. Lewin, to Station H.Q., Bircham Newton, 11.3.29.

Flying Officers: G. Lacey, to R.A.F. Reception Depot, West Drayton, 14.3.29. K. C. Garvie, to Armament and Gunnery School, Eastchurch, 8.3.29. R. A. Whyte, to 35 Sqdn., Bircham Newton, 5.3.29. C. Snow, to R.A.F. Reception Depot, West Drayton, 28.3.29. F. G. Downing, to Station H.Q., Duxford, 8.3.29.

Pilot Officer C. C. C. Manson, to School of Balloon Training, Larkhill, 14.3.29.

Pilot Officers: G. F. Overbury, to No. 30 Sqdn., Iraq, 1.3.29. B. H. Gahan, to R.A.F. Depot, Uxbridge, 2.3.29. The undermentioned pilot officers are all posted to R.A.F. Depot, Uxbridge, on appointment to short service commns., on probation, with effect from 15.3.29:—J. E. Ashworth, J. D. Baker-Carr, L. W. A. Binks, G. H. Binns, P. F. Corbett, R. C. Dawkins, D. R. C. de Sarigny, R. F. Fletcher, D. A. Gowing, T. W. Hodgson, R. R. R. J.

Holmes, E. G. Hucker, B. J. Hurren, G. B. Kelly, F. Lemon, C. R. Lousada, A. R. MacKewn, A. A. McLaren, H. E. Mayes, H. L. Messiter, J. S. D. Miles, C. V. Ogden, G. J. Pawson, C. M. Rees, H. A. Shotton, J. C. W. Staveley, E. A. H. Tanner, A. J. Tunnard, A. C. P. Westhorpe, and D. E. T. Whittlesea.

Stores Branch

Squadron Leaders: C. M. Bevan, to No. 1 Stores Depot, Kidbrooke, 15.3.29. J. A. Stone, to Air Ministry (D. of E.), 8.3.29.

Squadron Leaders:—W. R. P. Allen, to H.Q. Inland Area, 2.4.29. F. R. Wilkins, to Armament and Gunnery School, Eastchurch, 2.3.29.

Accountant Branch

Wing Commander J. Rylands, to H.Q. R.A.F. Cranwell, 27.2.29. Flight-Lieutenant J. S. Griffiths, to No. 1 Flying Training School, Netheravon, 14.3.29.

Flying Officer, H. C. Bakes, to School of Army Co-operation, Old Sarum, 11.3.29.

Medical Branch

Wing Commanders: W. W. Shorten, F.R.C.S. (E.), to Central Medical Establishment, 4.3.29. H. W. Scott, M.B., B.A., to H.Q. Coastal Area, 13.3.29.

ROYAL AIR FORCE SPORTS

Association Football.—The Army beat the Royal Air Force in a match in the Inter-Services Championship at Woolwich, on March 20, by three goals to one.

Cross-country Running.—The Royal Air Force Cross-Country Championships were decided at Uxbridge on March 20.

The results were:—Individual Race.—Corpl. S. Ferris (Uxbridge), 45 min. 50 sec., 1; A./C. R. H. Thomas (Henlow), 46 min. 40 sec., 2; A./C. J. Foley (Uxbridge), 47 min. 36 sec., 3; A./C. Harrison (Cranwell), 47 min. 53 sec., 4; L.-A./C. Billinger (Worthydown), 48 min. 17 sec., 5; Corpl. Sanderson (Henlow), 48 min. 29 sec., 6; Corpl. Tilzey (Worthydown), 48 min. 30 sec., 7; A./C. Stevens (Cranwell), 48 min. 32 sec., 8; A./C. Taylor (Farnborough), 48 min. 47 sec., 9; A./C. J. Turner (Henlow), 49 min. 17 sec., 10.

Senior Team Championship.—Henlow (2, 6, 11, 14, 16, 34, 36, 44), 163 points, 1; Cranwell (4, 7, 18, 22, 24, 30, 35, 41), 181 points, 2; Halton, 301 points, 3; Flowerdown, 613 points, 4; Uxbridge (holders), 750 points, 5; Andover, 853 points, 6; Manston, 1,235 points, 7.

Junior Team Championship.—Shrewsbury, 153 points, 1; Worthydown,

209 points, 2; Upper Heyford, 407 points, 3; Martlesham Heath, 450 points, 4; Calshot, 476 points, 5; Farnborough, 505 points, 6.

Rugby Football.—The Civil Service gained a victory over the Royal Air Force at Devonport, on March 20, by one goal, two dropped goals, and a try (16 points), to two tries (6 points).

Hockey.—The Royal Air Force played a drawn match with Middlesex, at Uxbridge, on March 20, each side scoring three goals. Middlesex were not very strongly represented, and on the whole did well to draw. Their opponents were practically at full strength. The forward play on both sides was only moderate, though it certainly improved in the second half, when most of the scoring took place.

Royal Air Force Memorial Fund

The usual meeting of the Grants Sub-Committee of the Fund was held at Iddlesleigh House, on March 21. Mr. W. S. Field was in the chair, and the other Members of the Committee present were: Mrs. L. M. K. Pratt-Barlow, O.B.E., Sqdr.-Ldr. A. H. Wann. The Committee considered in all 13 cases, and made grants to the amount of £164 10s.

Schneider Trophy Race Arrangements

THE Admiralty announce that, owing to the limited area available and the necessity for keeping a clear course for competing aircraft, applications by vessels desiring berths in the vicinity of Spithead to witness the air race for the Schneider Trophy must be forwarded so as to reach the King's Harbour Master, Portsmouth, by the following dates:—

(a) By June 1, 1929.—All vessels of a draught of 20 ft. and over. (b) By July 15, 1929. Yachts and other vessels with a draught of less than 20 ft. and more than 8 ft. (c) By July 15, 1929. Excursion steamers and vessels of more than 150 ft. in length and of any draught less than 20 ft., carrying spectators. Small craft, not in category (c), drawing less than 8 ft. need not apply for berths; areas in which they can anchor will be promulgated at a later date. All applications should state clearly name of vessel, owner, length overall, and draught of water, and should be addressed to:—The King's Harbour Master, Schneider Cup Berthing Committee, Admiralty House, H.M. Dockyard, Portsmouth.

Air Service to Far East

THE Berlin correspondent of the *Times* stated recently that the new Chinese Minister in Berlin, Chiang

Tso-pin, made a flight over Berlin in a Lufthansa machine and sent wireless greetings, which were transmitted by the ground station, to Chiang Kai-shek, now attending the Kuomintang Congress at Nanking. Afterwards Chiang Tso-pin was present at a conference of the Lufthansa Board and representatives of the Ministry of Communications and the Foreign Ministry, at which the question of an air service to the Far East was discussed. This question, with those of the North and South Atlantic services, now occupies first place in the programme of the Lufthansa, which considers that its internal and European system is practically complete. It intends to concentrate attention in the future on the great inter-Continental thoroughfares of the air. Of these, the two trans-oceanic routes still present great difficulties, but the Far East route has been fully reconnoitred, and there are not technical obstacles to its early operation. It has been held up in the past by political difficulties on the Russo-Chinese frontier. The establishment of the British London-Karachi service is regarded as an important step towards the completion of an alternative route to the Far East, and the Germans may be expected to accelerate their efforts to institute the German-Chinese service with a potential extension to Japan. It is now suggested that as the trans-Siberian route still presents difficulties a more southerly line might be taken.

THE AIR ROUTE TO INDIA

(Concluded from page 274.)

Whitworth "Argosy" air liner "City of Glasgow" set out from Croydon on the first trip of the first real Empire Air Route—from England to India. There was no special ceremony for this occasion, but a large number of people had gathered on the aerodrome to witness the departure. Among them were Lady Maud Hoare, Sir Philip Sassoon, Under-Secretary for Air, and Marshal of the R.A.F. Sir Hugh Trenchard.

There were four "official" passengers on board—Sir Samuel Hoare, accompanied by his private secretary, Mr. C. Ll. Bullock, Air Vice-Marshal Sir Vyell Vyvyan—the Air Ministry representative of Imperial Airways—and Maj. H. G. Brackley, Air Superintendent of Imperial Airways. Sir Samuel Hoare was travelling as far as Alexandria, where he leaves the London-India route in order to fly to the Sudan and as far south as time permits, in Service aircraft, to inspect the projected London-Cape Town air route. He will rejoin the homeward India-England machine at Alexandria to be in time for the reassembly of Parliament.

The "City of Glasgow" was piloted by Capt. A. S. Wilcockson, who has been piloting the London-Continental machines since 1919. In addition to a load of newspapers, 364 lbs. of mail—about 1,200 letters—were on board; this was somewhat less than was expected, but no doubt the short notice to the public by the Post Office prevented many from sending letters in time. There was also comparatively little freight, so the machine was by no means heavily loaded.

After a short stop at Le Bourget, Basle was reached at 4.28 p.m.—17 minutes ahead of schedule—and several prominent Swiss and Italian air and postal officials being present to greet the machine. The machine was a few minutes late in starting from Genoa (per "Calcutta" flying-boat "City of Alexandria"), where Sig. Delapenne, president of the Italian Air Society, and others were present at the departure. The flying-boat reached Naples at 4.15 p.m. (G.M.T.), and was met by General Pinedo.

Monday's progress was—Naples to Corfu and Athens, where a good landing was made in the rough sea of Phaleron Bay. During this stage the flying-boat had to fly over the Apennines, some 3,000 ft. high. At Athens Sir Samuel Hoare and Sir Vyell Vyvyan visited the British Legation and met M. Venizelos at dinner.

The first homeward machine will leave Karachi on April 7, and is due at Croydon on April 14. It is reported that Air Vice-Marshal Sir Geoffrey Salmond and Lord Chetwynd, vice-chairman of Imperial Airways, with his daughter, Miss Eve Chetwynd, will travel by this first homeward trip.

R.A.E.S. AND INST.AE.E.

Official Notice

Annual General Meeting.—The annual general meeting of the R.A.E.S. and Inst.Ae.E. was held on March 26, 1929, at the offices of the Society, 7, Albemarle Street, W.1, to consider the balance sheet for 1928, to elect the auditors for 1929, and to elect two members to complete the Council for 1929-30. Messrs. Price, Waterhouse and Co. were re-elected auditors for the ensuing year.

As a result of the ballot, the composition of the Council for the year 1929-30 is as follows:—*President:* Colonel The Master of Sempill, A.F.C., A.F.R.Ae.S. *Past President:* Air Vice-Marshal Sir W. Sefton Branker, K.C.B., A.F.C., F.R.Ae.S. *Vice-Presidents:* Air Vice-Marshal Sir Vyell Vyvyan, K.C.B., D.S.O.; Lieut.-Colonel J. T. C. Moore-Brabazon, M.C., F.R.Ae.S., M.I.Ae.E., M.P. *Council:* Captain F. D. Acland; Major T. M. Barlow, M.Sc. (Eng.), M.Inst.C.E., M.I.Mech.E., F.R.Ae.S.; Mr. Robert Blackburn, F.R.Ae.S.; Mr. M. L. Bramson, A.C.C.I.A.F.R.Ae.S., M.I.Ae.E.; Mr. Griffith Brewer, F.R.Ae.S.; Major J. S. Buchanan, O.B.E., A.M.I.Mech.E., F.R.Ae.S.; Wing Commander T. R. Cave-Browne-Cave, C.B.E., A.M.I.Mech.E., A.M.I.N.A., F.R.Ae.S.; Capt. F. T. Hill, F.R.Ae.S., M.I.Ae.E., B.Sc., Wh.Ex.; Capt. A. G. Lamplugh, A.F.R.Ae.S., M.I.Ae.E.; Major A. R. Low, F.R.Ae.S.; Mr. W. O. Manning, F.R.Ae.S.; Major R. H. Mayo, O.B.E., F.R.Ae.S.; Mr. F. Handley Page, C.B.E., F.R.Ae.S.; Mr. T. O. M. Sopwith, C.B.E., F.R.Ae.S.; Mr. C. C. Walker, Assoc.M.Inst.C.E., F.R.Ae.S.; Mr. H. E. Wimperis, O.B.E., F.R.Ae.S.; Mr. L. A. Wingfield, M.C., L.F.C., A.R.Ae.S.I.; Mr. R. McKinnon Wood, M.B.E., A.M.Inst.C.E., F.R.Ae.S.

J. LAURENCE PRITCHARD, Secretary.

Aerodrome Illuminated by Siren

The New York correspondent of *The Times* recently stated that the Westinghouse Company introduced their mechanical device, the "Televox," to Newark (New Jersey) airport, when it turned on flood-lights in response to a siren sounded by the pilot of an approaching aeroplane. The tests were conducted at distances of 2,000 ft. and 3,000 ft. away from the instrument, which amplified the sound waves to the point required to turn on the lights. Further experiments will be made with a view to installing the "Televox" for regular service at American airports. The device resembles a phonograph horn, through which the sound is carried to a Knowles grid glow-tube and a vibrating reed selector, with accompanying relays and switches.

COMPANY DOINGS

D. Napier and Son, Ltd.

THE general meeting of D. Napier and Son, Ltd. was held on March 22. Particulars of the year's accounts were given in *FLIGHT* on March 21. Mr. H. T. Vane, C.B.E. (managing director), was in the chair, and in the course of his remarks he stated that during the last trading year they had continued their policy of concentrating on the manufacture of aero-engines only. They had made a good start in the present year, and, providing no unforeseen difficulties occurred, there was every prospect of their business being well maintained. Important aero-engine developments were in hand now, but having regard to the secret nature of the work, it would not be policy to give details. Mr. Vane then mentioned the outstanding performances of Napier engines during the past year on such great flights as the R.A.F. cruise to Singapore and Australia, the speed set up by Flight-Lieut. D'Arcy Greig, and other flights, all of which have been faithfully recorded in *FLIGHT*. Sir Harry Brittain paid tribute to the chairman, Mr. M. S. Napier, whose health compelled him to live abroad. But he devoted time and ability to all problems.

NEW COMPANIES REGISTERED

H. O. SERCK, LTD.—Capital £1,000, in £1 shares. Manufacturers of radiators for motor cars, aeroplanes, hydroplanes, airships, etc. H. O. Serck is the first governing director. Solicitor: James Chapman & Co., Manchester.

AEROPLANE SERVICES, LTD., 156, Edmund Street, Birmingham.—Capital £100, in £1 shares. Acquiring the business carried on at 1A, Park Road, Leyton, E.10, as aeroplane services, under agreement with A. J. Adams, to establish, maintain and work lines of and manufacture aerial conveyances; to carry on aerial photography and advertising business, etc. First directors: A. V. Adams, C. C. Birt, C. H. Birt.

PHILLIPS AND POWIS AIRCRAFT (READING), LTD.—Capital £5,000, in £1 shares. Objects: to promote, assist and encourage aerial navigation in all its forms, etc. Permanent directors: E. J. Phillips and C. O. Powis. Secretary: D. G. Young. Solicitor: Arthur F. Clark, Reading.

PUBLICATIONS RECEIVED

Handbuch für Luftfahrt und Luftfahrt Industrie. Compiled by Dr. Erich Mehne. Luftfahrt Verlag G.m.b.H., Berlin, S.W.19. Price rm. 5-80.

The Great Trans-Pacific Flight: The Story of the "Southern Cross." By C. E. Kingsford-Smith and C. T. P. Ulm. Hutchinson and Co., Paternoster Row, London, E.C.4. Price 12s. 6d.

Handbook of Strength Calculations. Air Publication 970. H.M. Stationery Office, Kingsway, London, W.C.2. Price 3s. 6d. net.

Aeronautical Research Committee Reports and Memoranda: No. 1169 (Ae. 333). The Distribution of Pressure over the Hull and Fins of a Model of the Rigid Airship R.101, and a Determination of the Hinge Moments on the Control Surfaces. By R. Jones, M.A., D.Sc., and A. H. Bell. July, 1927. Price 1s. 9d. net. No. 1184 (Ae. 347). Experiments on a Model of a Single-Seater Fighter Aeroplane in Connection with Spinning. By H. B. Irving, B.Sc. and A. S. Batson, B.Sc. May, 1928. Price 1s. net. No. 1187 (Ae. 349). On the use of a Follow-Up Mechanism in Aerodynamic Servo Control Systems. By H. M. Garner, M.A., and K. V. Wright, B.A. May, 1928. Price 6d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

FLIGHT.

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone: Holborn 3211.

Telegraphic address: Truditur, Westcent, London.

"FLIGHT" SUBSCRIPTION RATES

UNITED KINGDOM				ABROAD*			
	s.	d.			s.	d.	
3 Months, Post Free	7	7		3 Months, Post Free	8	3	
6 "	15	2		6 "	16	6	
12 "	30	4		12 "	33	0	

* Foreign subscriptions must be remitted in British currency.

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," 36, Great Queen Street, Kingsway, W.C.2, and crossed Westminster Bank.

Should any difficulty be experienced in procuring "FLIGHT" from local newsvendors, intending readers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.



Fox's Puttees are Standard "R.A.F."

Correct "Service Shade."

Non-Fraying, Perfect Spiral Fit. The epitome of ease, comfort and smartness.

Regulation Heavy Weight...10/- per pair.
Extra Fine Light Weight ...12/- "
Superfine15/- "

CAUTION.—See that the name "FOX" is on the metal discs (right and left), attached to every genuine pair of FOX'S New Non-Fray Spiral Puttees.

Patentees and Sole Manufacturers:
FOX BROS. & CO., LTD. (Dept. R), Wellington, Somerset.
Agents for U.S.A.:
The Manley-Johnson Corporation, 260, West Broadway, NEW YORK.

FOX'S PUTTEES



STRENGTH COMBINED WITH LIGHTNESS.

AN alloy with the strength and hardness of Mild Steel, but having only one-third of its weight, and possessing excellent machining qualities.

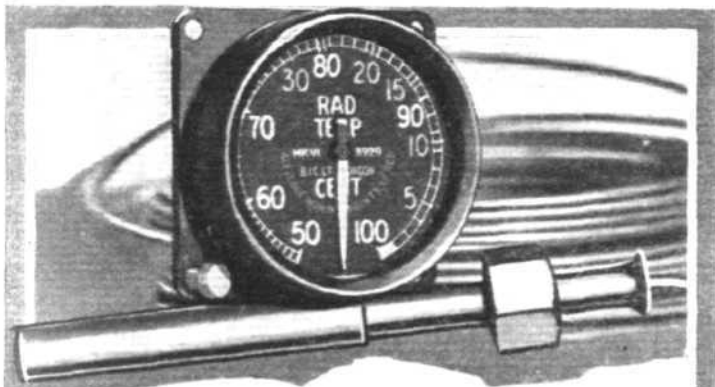
Specific Gravity, 2.8.
Tensile Strength up to 35 tons.

All enquiries to—

JAMES BOOTH & COMPANY (1915) LIMITED

Argyle Street Works, Nechells, **BIRMINGHAM.**

Telephone: East 1221 (Private Branch Exchange).
Cables: Lieber's 5 Letter Code. Telegrams: "Booth, Birmingham."
Bentley's Code. A.B.C. 5th and 6th Edition.



Radiator Thermometers

The ³ British Instrument Co., Ltd., specializes in these and other instruments for aircraft, and has a long manufacturing experience in the highest class of work.

SCIENTIFIC INSTRUMENT MAKERS TO
The British Government, The Canadian Government,
United States Navy, Imperial Japanese Navy, The National
Advisory Committee, U.S.A., The Deutsche Versuchsanstalt
für Luftfahrt Ev., Berlin, Irish Free State Air Force,
Italian Government, Service Technique, France.

THE BRITISH INSTRUMENT COMPANY, LTD.

HENDON AERODROME, LONDON, N.W.9.
Makers of the "Car-Thermo."

A BOOK TO BUY AND KEEP.

THE

Baghdad Air Mail

By Wing-Commander RODERIC HILL, M.C.

With Illustrations and Maps.

18s. net.

An absorbing record of difficult flying in ancient and romantic lands and of the making of a great modern airway.

London: EDWARD ARNOLD & CO., 41, Maddox St., W.1

PACKERS & SHIPPERS OF AEROPLANES, ENGINES, MACHINERY, MOTOR-CARS, ETC.

The most extensive packing, shipping and storage riverside depot above bridges. Aeroplanes, etc., collected, packed and delivered to F.O.B. Steamers.

Through rates to all parts of the world. Eight cranes lifting up to 12 tons. Bonded warehouses for imported cars, etc.

JOSEPH C. MOUNT & CO.,

(Established for upwards of Quarter of a Century)
Stevenage Wharves, Fulham, S.W.6.

*Phone: PUTNEY 2840 (3 lines).

Save time by using the Air Mail.

MISCELLANEOUS ADVERTISEMENTS.

All Advertisements for this column should arrive at this office by Tuesday, 12 o'clock noon, to insure insertion. Special PREPAID Rate is—

18 WORDS or less, 3/-, then 2d. per word.

Display Caps Throughout, 1/6 per line.
Situations Wanted ONLY, 18 Words, 1/6.
1½d. per word after.

PATENTS.

STANLEY, POPPLEWELL & FRANCIS,
International Patent Agents, Jessel Chambers,
26, Chancery Lane, London, W.C.2. Telephone:
Holborn 6393; Telegrams: "Notions, London."

A. P. THURSTON, D.Sc., M.I.Mech.E., M.I.A.E.,
F.R.A.E.S.

PATENTS, Trade Marks and Designs.—Bank
Chambers, 329, High Holborn, W.C.1 Holborn
2542.

AIR SURVEY.

THE AIRCRAFT OPERATING CO., LTD.,
8, New Square, Lincoln's Inn, London (Holborn
8131), and Bulawayo, Southern Rhodesia; Cairo,
Egypt; Rio de Janeiro, South America. Contractors
to the Ordnance Survey. Laboratories and Sub-
sidiary Company for aerial photography in the British
Isles, **AEROFILMS LTD.,** Colindale Avenue, Hendon.
(Colindale 6581.)

AIR SURVEY CO., LTD., 39, Grosvenor Place,
S.W.1 (Sloane 6048), Monkey Point, Rangoon,
and 12, Hungerford Street, Calcutta.

AVIATION INSURANCE.

FOR INSURANCES of Every Description con-
nected with Aviation, apply to **BRAY, GIBB &**
Co., LTD., 166, Piccadilly, London, W.1. Enquiries
welcomed.

CONSULTANTS.

**THE Design and Production of "Lighter-than-
Air" craft** is a speciality of **THE AIRSHIP
DEVELOPMENT Co., LTD.,** 39, Victoria Street, S.W.1.
Aeronautical Engineers and Consultants. Telephone:
Victoria 6521/2 (two lines).

FINANCIAL.

ORIGINAL PIONEER BRITISH DESIGNER
modern all-metal aeroplane desires financial
help build working model corrugated metal airship.
New system jet propulsion, etc. See **FLIGHT**,
March 28.—**COCHRANE, 219, West End Lane,**
Hampstead, London, N.W.

SITUATIONS VACANT.

REQUIRED. Senior Draughtsmen and Section
Leaders with first-class aircraft experience.—
Write, giving experience, age, salary, etc., to
HANDLEY PAGE, LTD., Cricklewood, N.W.2.

WANTED. First-class Draughtsman having ex-
perience in the designs of Aero Engines and
preferably specialised in the layout of installations
of Water Cooled Engines in Aircraft. State age,
experience and salary required.—Apply, Box
No. 8195, c/o **FLIGHT**, 36, Great Queen Street,
Kingsway, London, W.C.2.

VACANCIES occur for several men with specialised
knowledge and experience of aero engines, in-
stallation, maintenance. Progressive positions for
suitable men. Only first-class men need apply.—
Box No. 8198, c/o **FLIGHT**, 36, Great Queen Street,
Kingsway, London, W.C.2.

GOOD MAN FOR MECHANICAL TESTING
DEPT.; experienced, with a theoretical train-
ing in Mechanical Engineering and a knowledge
of Metallurgy. Aircraft works experience desirable.
—Write, stating experience, age and wage expected,
to **CHIEF INSPECTOR, Westland Aircraft Works,**
Yeovil.

EMPLOYMENT.

BE PREPARED for the coming great "BOOM"
in Aviation, and Register at once. (Licensed
annually by L.C.C.).—**MERRIAM'S AVIATION BUREAU,**
64, Victoria Street, S.W.1.

EAR DEFENDERS.

PREVENT injury due to excessive noise or change
of pressure; small sounds heard as usual. Price,
by post, 4/2 per pair.—**THE MALLOR-ARMSTRONG**
Co., 39, Victoria Street, S.W.1. (NEW ADDRESS).

MISCELLANEOUS.

AIRCRAFT REPAIRS. No job too small or too
large. Complete reconditioning for C. of A.
Full certificated staff—keenest rates.—**BROOKLANDS**
SCHOOL OF FLYING, Brooklands, Byfleet.

AERO HIRE LTD., 39, Corporation Street,
Birmingham. Tel.: Midland 4834. Tuition,
Taxis; Short Flights, Photos, maintenance, etc., at
Castle Bromwich.

GET THE AVIATION BUG.

ALAN COBHAM AVIATION Ltd.

150, New Bond Street, W.1.

'Phone: Mayfair 2908. 'Grams: "Talsundar, London."

Surveys conducted for Municipal authorities
and commercial undertakings. In addition to
choosing the best possible site, we prepare a lay-
out and can contract for complete equipment.

AERODROME CONSULTANTS.

AIRCRAFT WANTED.

MODERN AIRCRAFT Purchased for Cash. Part
exchanges for new machines.—**BROOKLANDS**
SCHOOL OF FLYING, LTD. Telephone: Byfleet 437.

MACHINES & ENGINES FOR SALE.

AIRCRAFT FOR SALE. New and second-hand
machines supplied for cash or on hire purchase.
Exchanges arranged against aircraft or motor cars.
—**BROOKLANDS SCHOOL OF FLYING, Brooklands,**
Byfleet.

LE RHONE AVRO 3-seater, quickly convertible
dual, condition new. C. of A. 11 months.
Rock bottom price.—**SKY TRIPS LTD.,** 41, Baronsmere
Road, East Finchley. 'Phone: Tudor 4103.

FOR SALE.

NEW Wire Ropes, Aeroplane Strands and Cords;
half price.—**THE LONDON ELECTRIC FIRM,**
Croydon. Telephone: Purley 1222 & 1223 (2 lines).

COLEY LTD. Aircraft Surplus. Special Offer:—
K.L.G.F.9 plugs, new, in maker's boxes, doz.
9/9; Ogilvie Airspeeds, pressure head complete,
new, 7/9; Smith's Indicators, 600-2,600 revs., 3-foot
drive, 22/6; Radiator Thermometers, Cambridge or
Foxboro, 10/6; Cross Levels, 1/6; Dashboard New
Spot lamps, 2-volt, length of wire, 1/9; Leather
Helmets, R.A.F. Pattern, new, 5/-. Above postage
paid. Free List obtainable.—**COLEY LTD.,** Ordnance
Works, Queen Elizabeth Road, Kingston-on-Thames.
'Phone 0365.

CLOTHING.

LEWIS'S FOR FLYING EQUIPMENT OF
EVERY DESCRIPTION. Leather Flying Coats,
87/6, 110/6, 120/6. Double Breasted, 65/6, 85/6,
105/6. New Flying Suits, all sizes, fitted fur collars,
60/6. Flying Helmets, best quality only, fur
trimmed, 14/6. Flat or round type of phone, 5/6.
Y-piece and Adapter, 3/3. Tubing and Rubber
Connections, 3/6. Genuine Government Pilots'
Gauntlets. Lambswool-lined Muffs, 12/6 per pair.
Triplex Goggles of every description.—**LEWIS'S,**
Leather Clothing Manufacturer, 19a & 27, Carburton
Street, London, W.1. Museum 4793. No con-
nection with any other firm.

WAINWRIGHT'S FOR FLYING CLOTHING.
Contractors to Colonial and Foreign Govern-
ments. All clothing guaranteed. As supplied to the
leading flyers of the day. Write for our special
catalogue. Genuine R.A.F. Sidcot Suits, 5 ft. to
5 ft. 9 ins. only, 57/6. Best quality Leather Flying
Coats in all styles, 85/6, 105/6, 126/6. Waterproof
Flying Coats, lined teddy fleece and oilskin, 60/6.
R.A.F. Sheepskin Flying Boots, all sizes, 25/6.
R.A.F. Pilot's Gauntlet Gloves, 12/6. Flying Mask
Goggles, unsplinterable, lined fur, 12/6. Inter-
communication Earphones, complete connections and
"Y" pieces, 12/6. Flying Helmets, trimmed fur,
12/6.—Inspect the largest stock of leather clothing
at **WAINWRIGHT'S, 300-302, Euston Road, London,**
N.W.1. 'Phone: Museum 6280.

Established over 30 years. The Leading House for AVIATORS' CLOTHING.

Fine quality R.A.F. pattern Chrome Leather Coats,
fleece lined, 105/6, 120/6. Other styles from 77/6.
Flying Suits fitted with fur collar, all sizes, 60/6.
White Flying Suits, all sizes, 27/6. Mask Goggles,
fur lined, 12/6. Featherweight Triplex, 7/6.
Genuine R.A.F. Flying Gloves with lambs' wool
pouch, 12/6. Flying Helmets, fur trimmed, 7/6,
10/6, 12/6, 14/6. Approved Air Ministry pattern
Helmet, fits any head, best quality leather chamois
lined, 19/6, 22/6. Genuine D.H. Phones, 12/6.
Illustrated Catalogue Post Free.

All goods sent on approval against cash or C.O.D.
Money refunded if not satisfied.
We make and sell at the keenest prices.

D. LEWIS,

(Dept. F), 124, Gt. Portland St.,
London, W. Phone: Museum 4314.
Branches at SHEFFIELD, BIRMINGHAM & LIVERPOOL.

AIR TAXIS.

AIR TAXIS, LTD., Stag Lane Aerodrome,
Edgware. Phone: Colindale 6307.
AEROFILMS LIMITED: Aerial Tours, Taxi
Work, Aerial Photography, Air Survey.
Colindale Avenue, Hendon, N.W.9. 'Phone:
Colindale 6581 (2 lines).

FLIGHT TUITION.

LEARN TO FLY AT THE MIDLAND AERO
CLUB. Four tuition machines, two fully
qualified expert instructors. No waiting.—**Par-**
ticulars, Hon. Secretary, 22, Villa Road,
Handsworth, Birmingham.

BROOKLANDS SCHOOL OF FLYING, LTD.,
Brooklands Aerodrome. 'Phone: Byfleet 437.
Highest standard of instruction on "Moth" and
Avro aircraft. Private accommodation on Aero-
drome.

THE DE HAVILLAND SCHOOL OF FLYING,
Stag Lane Aerodrome, Edgware, Middlesex.
Fourteen machines: Nine Moths, five advanced
training machines. Seven Pilot Instructors, Lecture
Classes, Restaurant and Recreation Pavilion. The
largest and most up-to-date civilian organisation
for flying tuition in the British Empire.

WHY PAY a year's subscription when you can
learn in a month? Monthly subscription
£1 ls. No entrance fee. Cheapest tuition ever
offered commences 1st April, 1929. No waiting list.
Perfect aerodrome 65 miles from London. Comfort-
able Club Room and Bar. Moth machines. Annual
Subscriptions Reduced to £3 3s. (Entrance Fee
£1 ls.) "LEARN AT LYPNE" with CINQUE
PORTS FLYING CLUB.

READING—40 Minutes from Paddington.—
PHILLIPS & POWIS SCHOOL OF FLYING opens
Easter Week.—470, Oxford Road, Reading.
Phone: 469.

SURREY FLYING SERVICES, Croydon Aero-
drome (Telephone: Croydon 1736), have vacancies
in their Flying School for Pupils at Moderate Rates.
Avro Aircraft used. Residential accommodation at
Aerodrome Hotel.

THE MAXIMUM EFFICIENCY in instruction
is attained by one instructor—throughout.
Lt.-Col. G. L. P. HENDERSON guarantees a thorough
but inexpensive course in a minimum time. Flying
taught on Avros—Licence flights in safety on Slotted
Moths.—Write, **CROYDON AERODROME.**

TUITION.

WE offer sound instruction in Aeroplane Design,
Fitting and Rigging, and Aero-Engine Fitting
and Rigging; also expert training for Ground
Engineers (Categories A, B, C and D) and Special
Pilots (Licence B). Write to-day for our "Aero-
nautical Engineering" Booklet.—**INTERNATIONAL**
CORRESPONDENCE SCHOOLS, LTD., 182, International
Buildings, Kingsway, London, W.C.2.

HIRE PURCHASE.

HIRE PURCHASE HAS COME.
WE ARE THE FIRST in the field to offer
HIRE PURCHASE Terms to buyers of
second-hand aircraft.—Apply at once for our com-
prehensive list of machines and engines; all sold with
C. of A.—**MERRIAM'S AVIATION BUREAU, 64, Victoria**
Street, S.W.1. 'Phone: Victoria 8428. 'Grams:
"Exboxkite, Sowest, London."

MODELS AND PARTS.

A. E. JONES, LTD.
The Original House for Model Aeroplanes and
Accessories; Quality always of the highest standard.
Price List free.—97, New Oxford Street, London,
W.C.1. Tel.: Museum 4090.

D.A.P. MODEL AEROPLANE CO. The
Pioneer Firm for Models, Accessories
and Materials. Scale Models a speciality. Catalogue
4d.—187, Replingham Road, Southfields, S.W.18.
'Phone: Putney 0636.

MODEL AEROPLANE BULLETIN, packed full
of illustrations. Free on application.—**WM.**
APPLEBY & Co., Jesmond, Newcastle-on-Tyne.

PATENT MODEL MANUFACTURERS, 159,
Lymington Avenue, Wood Green, N.22, have
just the model you are looking for. See next week's
special display advertisement. 'Phone us, Tottenham
3278, if you feel you cannot wait.

Anything in Rope, Wire, Canvas or Fabric
Work.

FLOTATION  **AIR BARS**
COMPANY.

17, Stoke Road, Guildford, Surrey.

Kindly mention "Flight" when corresponding with advertisers.

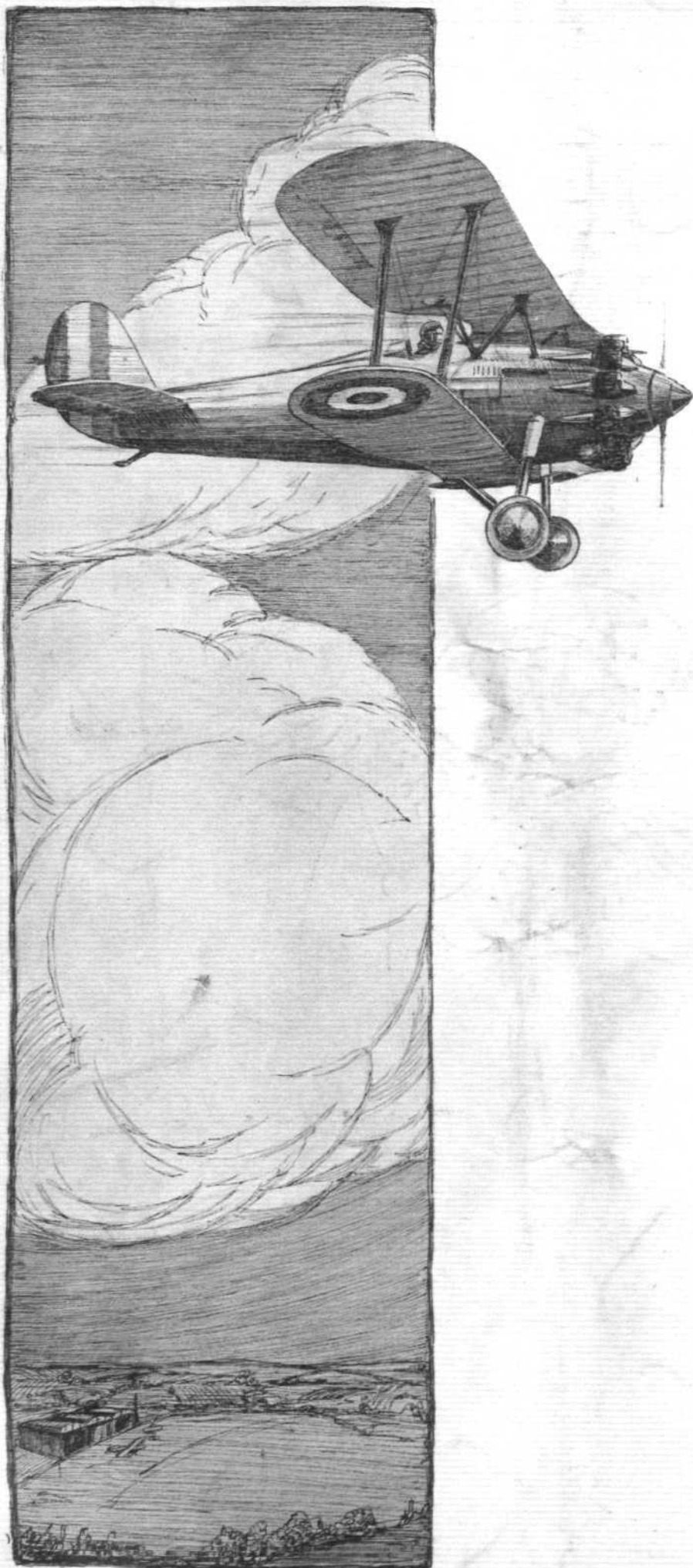
THE

PROPER SIGN OF EFFICIENCY



'Phone: WEYBRIDGE 705.

Save time by using the Air Mail.



The

"Bristol" **BULLDOG** ALL - STEEL SINGLE - SEATER **FIGHTER**

**Adopted for the
equipment of the
Royal Air Force.**

A redoubtable aircraft, fitted with the "Bristol" Jupiter Supercharged Engine of outstanding performance — more especially at altitude. The machine is easily flown, very manœuvrable, and of exceptional strength.

Designed and manufactured by—

**THE BRISTOL AEROPLANE CO., LTD.,
FILTON ————— BRISTOL.**

*Telegrams: "Aviation, Bristol."
Telephone: 3906 Bristol.*